

**River des Peres
Whole Body Contact Recreation
Use Attainability Analysis**

July 2005

Prepared for:
METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 Market Street
St. Louis, Missouri 63103

Prepared by:
MEC WATER RESOURCES, INC.
1000 North College Avenue, Suite 4
Columbia, Missouri 65201

TABLE OF CONTENTS

I. INTRODUCTION	1
II. STUDY AREA	2
III. METHODS AND MATERIALS	4
IV. RESULTS AND DISCUSSION	4
A. Environmental Conditions	4
B. Site Characterizations	5
C. Recreational Use Interviews	9
V. WHOLE BODY CONTACT RECREATION USE CONSIDERATIONS	9
A. Existing Use Considerations	9
B. Attainability of Whole Body Contact Recreational Use	13
VI. CONCLUSIONS	16
VII. REFERENCES	17

LIST OF APPENDICES

Appendix A	MNDR Recreational Use Stream Survey Forms (Data Sheets A and B) and River des Peres Site Photographs
Appendix B	River des Peres Lateral Transects
Appendix C	River des Peres Water Quality Data
Appendix D	River des Peres Recreational Use Attainability Interview Forms

LIST OF FIGURES

Figure 1	River des Peres Recreational UAA Study Area and Sites
Figure 2	October 2004 Streamflow for USGS Gage 07010097 River des Peres at St. Louis, MO
Figure 3	Recreation Season <i>E.coli</i> Frequency Plot River des Peres near University City (1997-2004, n=21)
Figure 4	Recreation Season Fecal Coliform Frequency Plot River des Peres near University City (1997-2004, n=21)
Figure 5	Synthetic Mean Velocity Frequency Plot River des Peres at St. Louis (Morganford Rd.) (2002-2003)
Figure 6	Velocity-Flow Rating Curve for River des Peres near St. Louis (Morganford Rd) (2002-2005, n=38)
Figure 7	Mean Depth-Flow Rating Curve for River des Peres near St. Louis (Morganford Rd) (2002-2005, n=38)

LIST OF TABLES

Table 1	Surrounding Conditions, Observed Uses, and Stream Attributes for Unclassified Segments of River des Peres (Sites #1-#9)
Table 2	River des Peres Transect Depth Summary for Unclassified Reaches (Sites #1-#9)
Table 3	Surrounding Conditions, Observed Uses, and Stream Attributes for Class C Segments of River des Peres (Sites #10-#16)
Table 4	River des Peres Transect Depth Summary for Class C Reaches (Sites #10-16)
Table 5	Surrounding Conditions, Observed Uses, and Stream Attributes for Class P Segments of River des Peres (Sites #17-#22)
Table 6	River des Peres Transect Depth Summary for Class P Reaches
Table 7	Annual Recreation Season <i>E. coli</i> Concentrations in River des Peres near University City
Table 8	Annual Recreation Season Fecal Coliform Concentrations in River des Peres near University City
Table 9	Recreational Season Bacteria Data for USGS 07010097 River des Peres at St. Louis

I. INTRODUCTION

In September 2000, U.S. Environmental Protection Agency Region VII (EPA) notified the Missouri Department of Natural Resources (MDNR) that several items contained within Missouri's Water Quality Standards were inconsistent with the intent of the Federal Clean Water Act of 1972 (CWA). EPA noted that MDNR's limited designation of streams for swimming uses was inconsistent with the CWA. Section 101(a)(2) of the CWA establishes as a national goal "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water," wherever attainable. This goal presumes that all waters should be suitable for fishing and swimming unless these uses are unattainable per Title 40 Code of Federal Regulations (CFR) Section 131.10. The MDNR currently designates only 10% of Missouri's classified waters as having Whole Body Contact Recreation (WBCR) uses (swimming).

In response to concerns raised by EPA, MDNR is proposing WBCR use designation of all classified waters listed in State regulations. However as allowed by Federal regulations, a Use Attainability Analysis (UAA) may be conducted to determine if WBCR use is an appropriate and attainable use for a specific waterbody.

A UAA is a structured scientific assessment of the factors affecting use attainment, which may include physical, chemical, biological, and economic factors. If a designated use is not an existing use attained on or after November 28, 1975, one of the following attainability factors must justify the removal or downgrading of a designated use (from 40 CFR 131.10(g)):

- (1) Naturally occurring pollutant concentrations prevent the attainment of the use;
- (2) Natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for with sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met;
- (3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place;
- (4) Dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the waterbody to its original condition or to operate such modifications in a way that would result in the attainment of the use;
- (5) Physical conditions related to the natural features of the water body, such as lack of proper substrate, cover, flow, depth, pools, riffles, and the like unrelated to water quality, preclude attainment of aquatic life protection uses; or
- (6) Controls more stringent than those required by Title III Sections 301 and 306 of the CWA would result in substantial and widespread economic and social impact.

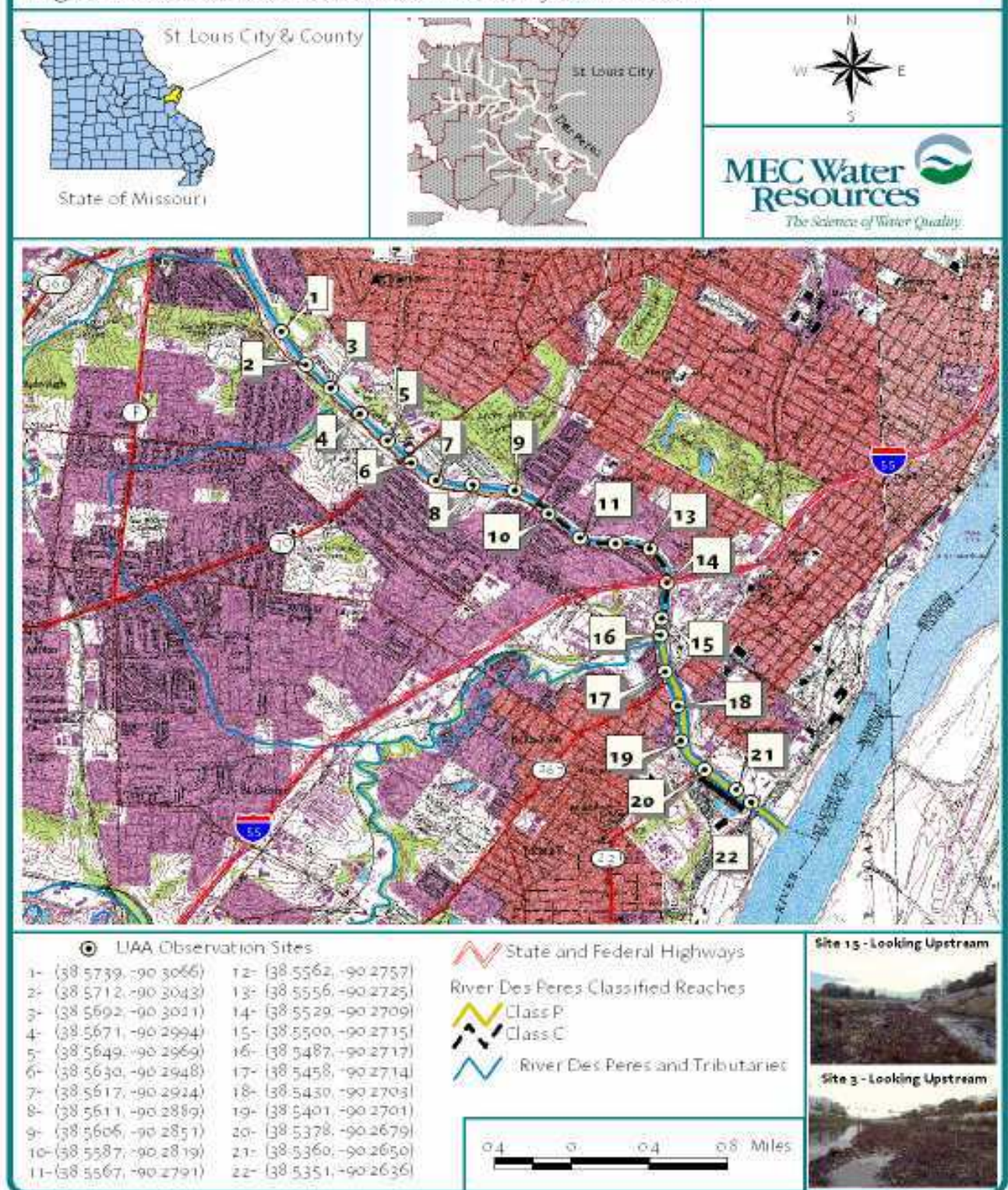
MDNR, in cooperation with State, Federal, Municipal, and private entities, developed a recreational UAA protocol for Missouri waters (MDNR 2004). This recreational UAA framework addresses use attainability factors that may allow removal or downgrading of WBCR uses for specified water body segments. Missouri WBCR UAAs may include, but are not limited to: field observations of swimming areas, sampling for pathogenic indicator bacteria, and interviews of nearby residents to determine historic recreational use.

The Metropolitan St. Louis Sewer District (MSD) is interested in determining whether or not WBCR is an existing or attainable use for River des Peres. Ongoing combined sewer overflow (CSO) control planning efforts must be founded on realistic and achievable goals for area receiving waters. MSD is concerned about potentially expending excessive public financial resources in pursuit of a WBCR goal if it is not attainable. To address these concerns, River des Peres, a classified tributary to the Mississippi River receiving urban runoff and CSO discharges, was evaluated for existing, potential, and attainable WBCR uses. Field surveys were conducted in October 2004. The assessment described herein is expected to meet or exceed the requirements set forth by MDNR in available UAA protocols for evaluating recreational uses.

II. STUDY AREA

The 1.0 mile segment of River des Peres (Figure 1) upstream of the Mississippi River is a Class "P" Water of the State while an additional 1.5 miles further upstream is classified as Class "C" (Blunt 2004). Beneficial uses currently designated for River des Peres include: Protection of Warm-Water Aquatic Life, Livestock and Wildlife Watering, and Human Health Protection (Fish Consumption and Secondary Contact Recreation). Draining an urbanized watershed in southern St. Louis County and a large section of St. Louis City, land uses of River des Peres are 64% residential, 11% institutional, 7% commercial, 6% industrial, 5% vacant, 3% recreational, and 3% public (SSPC 2002). Overall, the River des Peres watershed is composed of approximately 34% impervious area (SSPC 2002). The River des Peres watershed is contained within the larger Cahokia-Joachim catchment (8-digit HUC 07140101) and State-assigned waterbody identification numbers are 1710 and 1711 for the Class P and C segments, respectively.

Figure 1: River des Peres Recreational UAA Study Area and Sites



III. METHODS AND MATERIALS

Procedures developed by MDNR for conducting WBCR UAAs were the primary reference for this study (MDNR 2004). In summary, MDNR UAA procedures contain the minimum elements listed below:

- Surveys should generally be conducted during the regulatory recreational season (April 1 to October 31);
- Surveys should be conducted during baseflow conditions;
- Recreational assessments should be performed at a minimum of three publicly accessible sites along the stream reach of interest;
- All sites shall be marked on a 1:24,000 U.S. Geological Survey (USGS) topographic map;
- A photographic record should be prepared for each site that includes upstream and downstream views, in addition to any evidence of observed or potential recreational uses; and
- Interviews of persons present during the time of survey and nearby-residents.

In addition to MDNR site characterization requirements, MEC Water Resources, Inc. (MEC) staff collected systematic stream hydrogeometry and riparian corridor information at twenty-two evenly spaced sites along classified reaches of River des Peres (Figure 1). During the surveys MEC interviewed nearby residents, employees, Missouri Stream Team representatives, members of the River des Peres Watershed Coalition, and individuals observed near River des Peres for information regarding personal, observed, and anecdotal recreational uses of River des Peres.

IV. RESULTS AND DISCUSSION

The following discussion is provided to aid decision-makers in evaluating appropriate recreational uses for River des Peres. Although summarized in the following paragraphs, raw data collected during the survey are contained in Appendix A along with field data sheets (Data Sheets A and B¹) and photographs required by MDNR UAA protocols

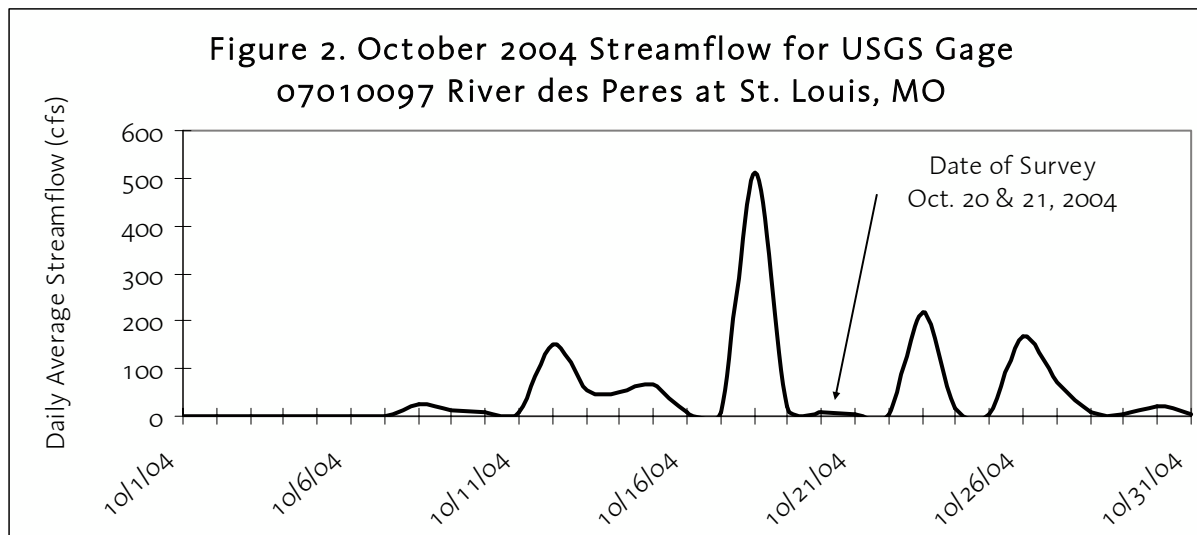
A. Environmental Conditions

Twenty-two sites along a 4.5 mile section of River des Peres (Figure 1) were surveyed on October 20, and 21, 2004 using methods referenced and described in Section III. Surveys were conducted during baseflow conditions as evidenced by streamflow data from USGS gage station River des Peres at St. Louis, MO (Figure 2). Average streamflows at the St. Louis gage were 6.8 and 5.0 cubic feet per second (cfs) on October 20 and 21, 2004, respectively. An instantaneous open channel flow measurement taken by MEC staff on October 21 at Site #1 (4.9 cfs) agrees with the USGS daily average estimate. A higher measurement (5.3 cfs) taken downstream of the gage on October 21, near the confluence of Gravois Creek, could be attributed to higher antecedent flows reaching downstream segments. Flow conditions observed during the study would not have precluded or limited recreational usage. Lateral transect depth measurements are provided in Appendix B.

Field surveys were conducted during the recreational season, as recommended by MDNR protocol. Weather conditions during the survey were stable, with mean daily air temperatures of 54°F and 58°F on October 20 and 21, respectively. Cooler temperatures may have limited

¹Bacteriological data are presented in Appendix C in a different format than Data Sheet C.

the appeal of recreational activities within River des Peres to an unknown extent. However, results from interviews are expected to reveal any recreational usage that may not have been directly observed by MEC staff during field surveys.



B. Site Characterizations

Twenty-two sites along a 4.5 mile segment of River des Peres were assessed for existing, potential, and attainable recreational uses. All sites are located near the southern boundary of the City of St. Louis. Photographs taken during the survey are included in Appendix A.

1. Unclassified Reaches (Sites #1 - #9)

Landscapes near unclassified reaches of River des Peres are primarily urban residential and commercial/industrial. City parks, walkways, and fencing intermittently border riparian areas adjacent to the River des Peres stream channel (Table 1). Steep streambanks are sparsely vegetated and lined with concrete. The streambed is lined with rip-rap.

Baseflows are transported in small subchannels within the larger trapezoidal channel. Mean depth from nine representative transects was 0.6 ft. while the maximum observed depth was 2.1 feet at Site #1 (Table 2). Channel substrate is a mixture of cobble, gravel, sand, and concrete with localized deposits of fine sediment. Waters were clear to slightly gray in color.

The presence of roads, all terrain vehicle (ATV) and equipment tracks, and discharge structures were the only signs of human activity within unclassified reaches of River des Peres. MSD contractors routinely utilize ATVs to perform various services, likely resulting in the observed ATV tracks. The observed equipment tracks were made by tracked equipment presumably used for channel maintenance. MEC staff did not directly observe recreational uses in or along these stream segments during the October surveys.

Table 1. Surrounding Conditions, Observed Uses, and Stream Attributes for Unclassified Segments of River des Peres (Sites #1-#9)

	Surrounding Conditions	Observed Uses	Signs of Human Activity	Channel Substrate	Bank Condition
Site #1	City Park, Steep Slopes, Urban Areas, Walkway	None	Roads, Discharge Structure	Cobble, gravel, sand, mud	Concrete Lined Banks, Rip-Rap Bed
Site #2	City Park, Steep Slopes, Urban Area, Walkway	None	Roads, ATV Tracks, Discharge Structure	Cobble, gravel, sand, concrete	Concrete Lined Banks, Rip-Rap Bed
Site #3	City Park, Steep Slopes, Urban Area, Fencing	None	Service Roads, Bulldozer Tracks, Discharge Structure	Cobble, gravel, sand, concrete	Concrete Lined Banks, Rip-Rap Bed
Site #4	City Park, Steep Slopes, Urban Area, Fencing	None	Service Roads, ATV Tracks, Discharge Structure	Cobble, gravel, sand, mud, concrete	Concrete Lined Banks, Rip-Rap Bed
Site #5	City Park, Steep Slopes, Urban Area, Cemetery	None	Service Roads, ATV Tracks, Discharge Pipes	Cobble, gravel, sand, concrete	Concrete Lined Banks, Rip-Rap Bed
Site #6	Steep Slopes, Urban Area	None	Roads, ATV Tracks, Discharge Structure	Cobble, gravel, sand, concrete	Concrete Lined Banks, Rip-Rap Bed, Willows
Site #7	City Park, Steep Slopes, Urban Area	None	Roads, ATV Tracks, Discharge Structure	Cobble, gravel, sand, concrete	Concrete Lined Banks, Rip-Rap Bed, Willows
Site #8	Steep Slopes, Urban Area	None	Roads, ATV Tracks, Discharge Structure	Cobble, gravel, sand, concrete	Concrete Lined Banks, Rip-Rap Bed
Site #9	Steep Slopes, Urban Area	None	Service Roads, Discharge Structure	Cobble, gravel, sand, concrete	Concrete Lined Banks, Rip-Rap Bed

Table 2. River des Peres Transect Depth Summary for Unclassified Reaches (Sites #1-#9)

Transect (#)	Mean Depth (ft.)	Maximum Depth (ft.)
Site #1	0.71	2.05
Site #2	0.78	1.10
Site #3	0.49	0.80
Site #4	0.38	0.72
Site #5	0.49	1.00
Site #6	0.45	0.85
Site #7	0.45	1.00
Site #8	0.62	1.20
Site #9	0.69	2.00
Unclassified Reach	0.56	2.05

2. Intermittently Flowing Reaches - Class C (Sites #10 - #16)

Landscapes near the intermittent, Class C reaches of River des Peres are primarily urban residential with localized industrial areas at Site #16. City parks, walkways, and fencing were absent along riparian areas adjacent to the River des Peres stream channel (Table 3). Steep streambanks are sparsely vegetated and lined with concrete. The stream bed is lined with rip-rap.

Baseflows are transported in small subchannels within the larger trapezoidal channel. The mean water depth from seven representative transects was 0.8 ft. while the maximum observed depth was 1.9 feet at Site #14 (Table 4). Although not representative of the assessment reach, a localized pool with water depths too deep to measure (>3 feet) was observed near Site #15. This pool is a result of scour from wet weather discharges and should be mitigated by MSD with ongoing channel maintenance efforts to prevent further scouring and stream instability. Channel substrate within these stream reaches is a mixture of cobble, gravel, sand, and concrete with localized deposits of fine sediment. Waters were observed clear to slightly gray in color.

The presence of roads, pull-offs, ATV tracks, and discharge structures were the only signs of human activity within Class C reaches of River des Peres. MSD contractors routinely utilize ATVs to perform various services, likely resulting in the observed ATV tracks. MEC staff did not directly observe recreational uses of these stream segments during the October surveys.

Table 3. Surrounding Conditions, Observed Uses, and Stream Attributes for Class C Segments of River des Peres (Sites #10-#16)

	Surrounding Conditions	Observed Uses	Signs of Human Activity	Channel Substrate	Bank Condition
Site #10	Urban Areas	None	Roads, Discharge Structures, Service Roads	Cobble, gravel, sand	Some vegetation, concrete banks and rip-rap bed
Site #11	Steep Slopes, Urban Areas	None	Roads, ATV tracks, Discharge Structures	Cobble, gravel, sand	Some vegetation, concrete banks and rip-rap bed
Site #12	Steep Slopes, Urban Areas	None	Roads, Discharge Structures	Sand, gravel, cobble	Some vegetation, concrete banks and rip-rap bed
Site #13	Steep Slopes, Urban Areas	None	ATV tracks, Discharge Structures	Concrete, cobble, gravel, sand	Some vegetation, concrete banks and rip-rap bed
Site #14	Steep Slopes, Urban Areas, Walkway next to Interstate Highway	None	Roads, ATV tracks, Discharge Structures	Gravel, cobble, sand, concrete, mud	Some vegetation, concrete banks and rip-rap bed
Site #15	Steep Slopes, Urban Areas	None	Roads, ATV tracks, Discharge Structures	Gravel, sand, cobble	Some vegetation, concrete banks and rip-rap bed
Site #16	Urban/Industrial Area	None	Roads, Discharge Structures	Cobble, gravel, sand	Some vegetation, concrete banks and rip-rap bed

**Table 4. River des Peres Transect Depth
Summary for Class C Reaches (Sites #10-#16)**

Transect (#)	Mean Depth (ft.)	Maximum Depth (ft.)
Site #10	0.66	1.00
Site #11	0.73	1.08
Site #12	0.81	1.10
Site #13	0.99	1.50
Site #14	1.37	1.90
Site #15	0.59	1.00
Site #16	0.40	0.62
Class C Reach	0.79	1.90

3. Permanent Flowing Reaches – Class P (Sites #17 - #22)

Landscapes near the permanently flowing Class P reaches of River des Peres are primarily urban residential and industrial. Permanent flows within these reaches are provided by Gravois Creek during low flow conditions, even when the upper River des Peres segments do not yield flow. Several sections of fencing bordered riparian areas adjacent to the River des Peres stream channel (Table 5). Steep streambanks are sparsely vegetated and lined with concrete. Stream beds were lined with rip-rap.

Baseflows are transported in small subchannels within the larger trapezoidal channel. The mean water depth from five representative transects was 0.5 ft. while the maximum observed depth was 1.35 feet at Site #17 (Table 6). Channel substrate is mostly cobble and gravel with localized deposits of fine sediment near Site #17. Waters were observed to be mostly clear or slightly green in color.

MEC staff during October surveys did not observe recreational activities in these stream segments. The only sign of human activity during the survey was the presence of a land survey crew near Site #20.

**Table 5. Surrounding Conditions, Observed Uses, and Stream Attributes for Class P Segments of
River des Peres (Sites #17-#22)**

	Surrounding Conditions	Observed Uses	Signs of Human Activity	Channel Substrate	Bank Condition
Site #17	Urban Area, Roads, Steep Slopes, Fence	None	Roads	Cobble, gravel	Some vegetation, concrete lined banks and rip-rap
Site #18	Urban Area, Steep Slopes, Fence	None	None	Cobble, gravel	Some vegetation, concrete lined banks and rip-rap
Site #19	Urban Area, Steep Slopes	None	None	Cobble, gravel	Some vegetation, concrete lined banks and rip-rap
Site #20	Urban Area, Steep Slopes, Fence	Survey Crew	None	Cobble, gravel	Some vegetation, concrete lined banks and rip-rap
Site #21	Urban/Industrial Area, Steep Slopes, Fence	None	None	Cobble, gravel	Some vegetation, concrete lined banks and rip-rap
Site #22	Urban/Industrial Area, Steep Slopes, Fence	None	None	Cobble, gravel	Some vegetation, concrete lined banks, rip-rap, mud

**Table 6. River des Peres Transect Depth
Summary for Class P Reaches**

Transect (#)	Mean Depth (ft.)	Maximum Depth (ft.)
Site #17	0.66	1.35
Site #18	0.49	1.15
Site #19	0.71	0.90
Site #20	0.41	0.80
Site #21	0.38	0.60
Class P Reach	0.53	1.35

*Site #22 was not measured due to vertical drop-off near Mississippi River.

C. Recreational Use Interviews

Four members of the River des Peres Watershed Coalition and fifteen nearby residents, employees, or passers-by were interviewed by MEC staff as part of recreational use surveys (Appendix D). Questions asked of each interviewee include but are not limited to:

- Have you or your family used River des Peres for recreational purposes?
- Have you personally observed another party using River des Peres for recreational purposes?
- Have you heard of another party using River des Peres for recreational purposes?

All interviewees responded that they had not personally used surveyed segments of River des Peres for swimming or other WBCR uses. Connie Recker, Community Center Director for the Salvation Army, had witnessed individuals swimming in River des Peres. This incident occurred about ten years ago during moderate to high flow conditions in River des Peres. The Senseney's also stated that swimming was observed very infrequently during their 60 years of residing near River de Peres. Two interviewees observed water skiing during the 1973 flood. Several interviewees witnessed or heard about individuals wading, canoeing, and fishing in the lower reaches of River des Peres. Other interviewees have observed secondary contact uses, such as wading, in stream reaches well upstream of the study reaches (University City area).

V. WHOLE BODY CONTACT RECREATION USE CONSIDERATIONS

A designated use may only be downgraded or removed if this use is not an existing use and is considered unattainable. Therefore, the UAA process must include consideration of both existing uses and attainability of potential uses. The following sections include existing use and use attainability considerations that provide the basis for the WBCR use recommendations.

A. Existing Use Considerations

Provisions contained within the CWA prohibit removal of an existing use that was attained on or after November 28, 1975. Use attainment is measured by assessing compliance with applicable water quality standards (beneficial uses and water quality criteria). In the case of

recreational contact uses (swimming, etc.), existing use considerations should be based upon attainment of both:

- The Beneficial Use, i.e. historic use of the waterbody in question for swimming, water skiing, skin diving, etc.; and
- The Water Quality Criteria that support the beneficial use, i.e. historic (after 11/28/75) and current levels of pathogen indicator bacteria.

In summary, a recreational use should be considered attained and existing when the waterbody is used for a specified recreational activity and is concurrently supported by levels of water quality adequate for the specific use.

1. Beneficial Use Evaluation

It is concluded that surveyed reaches of River des Peres are not frequently being used for WBCR during baseflow conditions based on:

- Absence of observed use by MEC staff;
- Absence of personal use by local citizenry;
- Very infrequent observed use by local citizenry during baseflow conditions; and
- Absence of substantive evidence such as rope swings, docks, diving platforms, etc.

As discussed earlier, Connie Recker and the Senseney's witnessed very infrequent swimming activities during periods of moderate to high river stages. Presumably, higher flows provided sufficient depths for WBCR activities at the time swimming was observed. Steep streambanks and intermittent fencing along the study reach may limit potential WBCR use by restricting access to the general public. Swimming or WBCR should not be considered an existing use within surveyed reaches of River des Peres due to only very infrequent WBCR uses observed by interviewees.

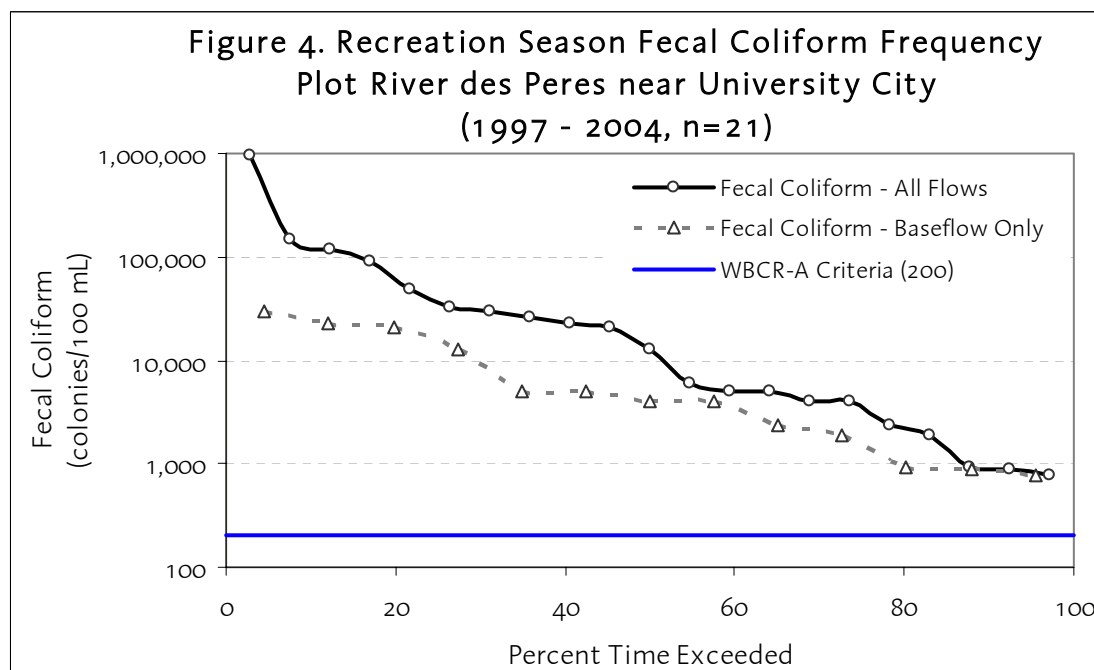
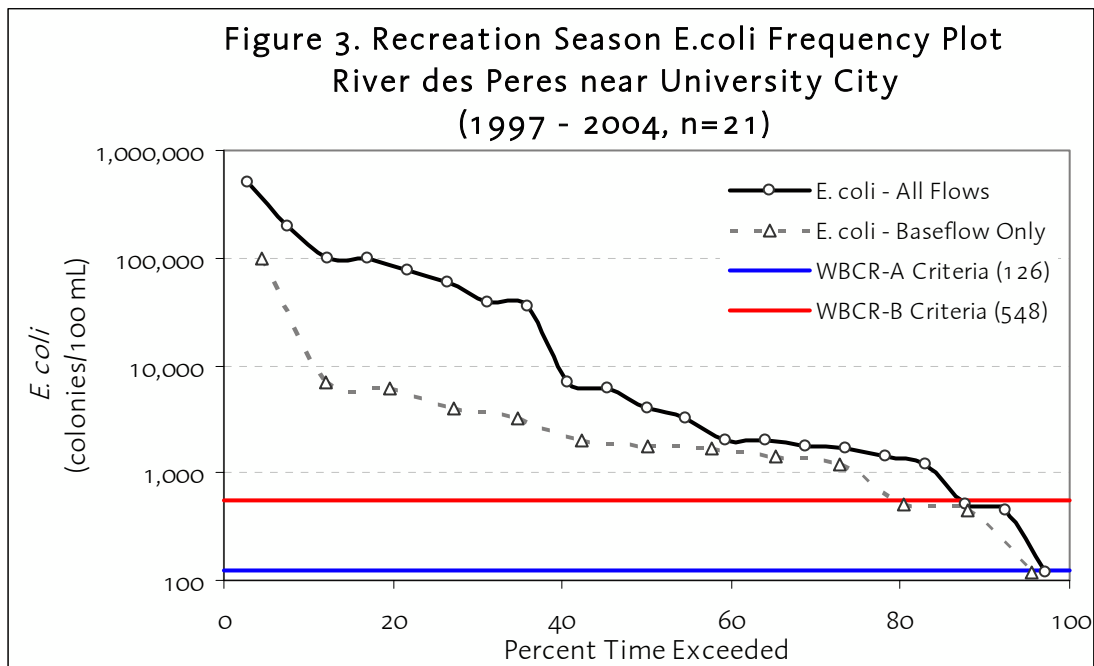
2. Water Quality Criteria Evaluation

MDNR is proposing a tiered approach to recreational use classification. The proposed Category A of WBCR (WBCR-A) will include waters that have been established as public swimming areas allowing full and free access by the public for swimming purposes and waters with existing whole body contact recreational use. MDNR currently proposes this WBCR use category for waters that are currently designated for WBCR in Missouri's Water Quality Standards. Water quality criteria assigned to the proposed WBCR-A use are fecal coliform and *E. coli* geometric means of 200 and 126 colonies per 100 mL, respectively. These criteria are based upon an illness risk of 8 illnesses per 1000 WBCR exposures. Proposed Category B of WBCR (WBCR-B) contains all other waters designated for WBCR not contained within Category A. The proposed Missouri Water Quality Standards regulations include designation of River des Peres for WBCR-B use. The water quality criterion assigned to WBCR-B is an *E. coli* geometric mean of 548 colonies /100 mL, based upon an illness risk of 14 illnesses per 1000 WBCR exposures.

A frequency plot of recreation season bacteria data collected by USGS several miles upstream of the study area near University City from 1997 through 2004 indicate that the proposed *E.*

coli WBCR-A criterion has been met once, at baseflow conditions, during the eight year period of record (Figure 3). In addition, proposed WBCR-B *E. coli* criteria were exceeded by 87% of

collected recreation season samples (Figure 3). Recreation season geometric means listed by year and flow condition indicate that the proposed *E. coli* WBCR-A has never been met and proposed WBCR-B criteria was only met once in 2003 during baseflow conditions (Table 7). The existing fecal coliform WBCR-A criterion has not been met at University City during the eight year period (Figure 4, Table 8). Available data indicate that water quality in reaches upstream of the study area do not meet criteria required to support WBCR uses during the recreation season.



**Table 7. Annual Recreation Season *E. coli* Concentrations in
River des Peres near University City**

All Flows			Baseflow Only		
Year (YYYY)	Sample # (#)	Geomean* (col./100 mL)	Year (YYYY)	Sample # (#)	Geomean* (col./100 mL)
1997	2	100,000	1997	1	100,000
1998	2	10,100	1998	1	1,700
1999	3	11,261	1999	2	1,673
2000	3	5,919	2000	2	2,400
2001	3	26,552	2001	1	1,200
2002	3	3,200	2002	2	917
2003	3	771	2003	2	478
2004	2	4,980	2004	2	4,980
1997 - 2004	21	7,456	1997 - 2004	13	2,102

*Geomeans based on less than 5 samples during steady-state conditions may not appropriately characterize central tendencies.

**Table 8. Annual Recreation Season Fecal Coliform Concentrations in
River des Peres near University City**

All Flows			Baseflow Only		
Year (YYYY)	Sample # (#)	Geomean* (col./100 mL)	Year (YYYY)	Sample # (#)	Geomean* (col./100 mL)
1997	2	67,082	1997	1	30,000
1998	2	14,859	1998	1	2,400
1999	3	42,901	1999	2	9,165
2000	3	9,865	2000	2	4,472
2001	3	41,555	2001	1	23,000
2002	3	7,260	2002	2	3,458
2003	3	1,603	2003	2	828
2004	2	3,082	2004	3	2,251
1997 - 2004	21	12,327	1997 - 2004	14	4,378

*Geomeans based on less than 5 samples during steady-state conditions may not appropriately characterize central tendencies.

A limited dataset is available within UAA study reaches from the USGS gage located at Morganford Road (Table 9). The geometric mean of six recreation season samples do not meet bacteria criteria that support WBCR designation. In addition, the paucity of data collected at this site suggests that attainment evaluations are not appropriate.

**Table 9. Recreational Season Bacteria Data for USGS
07010097 River des Peres at St. Louis**

Date/Time	Discharge (cfs)	Fecal Coliform (col./100mL)	<i>E. coli</i> (col./100mL)
10/29/2002 3:00	314	24,000	39,000
6/9/2003 15:50	2.4	520	240
8/11/2003 13:15	0.3	470	270
10/9/2003 14:55	2840	84,000	63,000
5/17/2004 12:00	6.2	92	42
8/3/2004 15:45	10	420	88
2002 - 2004 (geomean)	-----	1,634	915

3. Existing Use Conclusions

Information and data collected during this study suggest that WBCR uses are infrequent in lower River des Peres and do not represent an existing use that has been attained. This existing use conclusion is based upon the absence of current WBCR use, historical (post-11/28/75) evidence of only very infrequent WBCR use, and the prevalence of *E. coli* and fecal coliform levels that exceed proposed water quality criteria that support WBCR use.

B. Attainability of Whole Body Contact Recreational Use

The CWA precludes the removal of existing or attainable uses. As presented above, WBCR use within River des Peres is not an existing use. For WBCR to be considered unattainable, one or more of six conditions described in 40 CFR 131.10(g) and MNDR UAA protocols must be satisfied. Multiple use attainability factors outlined in Federal regulations may apply to River des Peres, including use attainment prevented by: natural concentrations of pollutants (Factor 1), low flow, shallow conditions (Factor 2), non-remedial human caused conditions (Factor 3), hydrologic modifications (Factor 4), and substantial and widespread economic and social impacts (Factor 6).

1. Natural Concentrations of Bacteria Prevent Use Attainment

Bacteria in urban stormwater runoff and baseflow originate from numerous sources. Bacterial source tracking studies completed in Blue River and Brush Creek, located within Kansas City, MO, yielded an even distribution between dogs (28.3%), geese (22.1%), humans (23.4%), and unknown sources (26.2%) (Wilkison et al. 2002). Nationally, an intensive effort in San Diego's Mission Bay determined 67% of pathogenic bacteria originated from avian sources, 9% from dogs, and only 5% from humans (Gruber et. al 2005). MSD has contracted with the USGS to conduct a bacterial source tracking study to characterize pathogen levels caused by natural and human sources. Results from the study may determine if natural bacteria alone could prevent WBCR use attainment.

2. Natural, Ephemeral, Intermittent, or Low Flow Conditions Prevent Use Attainment

MDNR has determined that natural, ephemeral, intermittent, or low flow conditions prevent WBCR uses if:

- the average depth of the waterbody is less than 1.64 feet over 50% of all the water surveyed from an observation point; or
- the maximum depth less than 3.28 feet.

WBCR use is considered unattainable due to low flow and shallow conditions that are prevalent throughout surveyed stream segments. Mean depths calculated from twenty-one representative transects was 0.6 ft. while a maximum transect depth of 2.05 feet was measured at Site #1. A small localized pool with a maximum depth greater than three feet was noted near Site #15; however, this feature is not representative of the majority of surveyed reaches. This pool is a result of scour from wet weather discharges and should be mitigated by MSD with ongoing channel maintenance efforts to prevent further scouring and stream instability.

3. Non-Remedial Human Caused Conditions Prevent Use Attainment

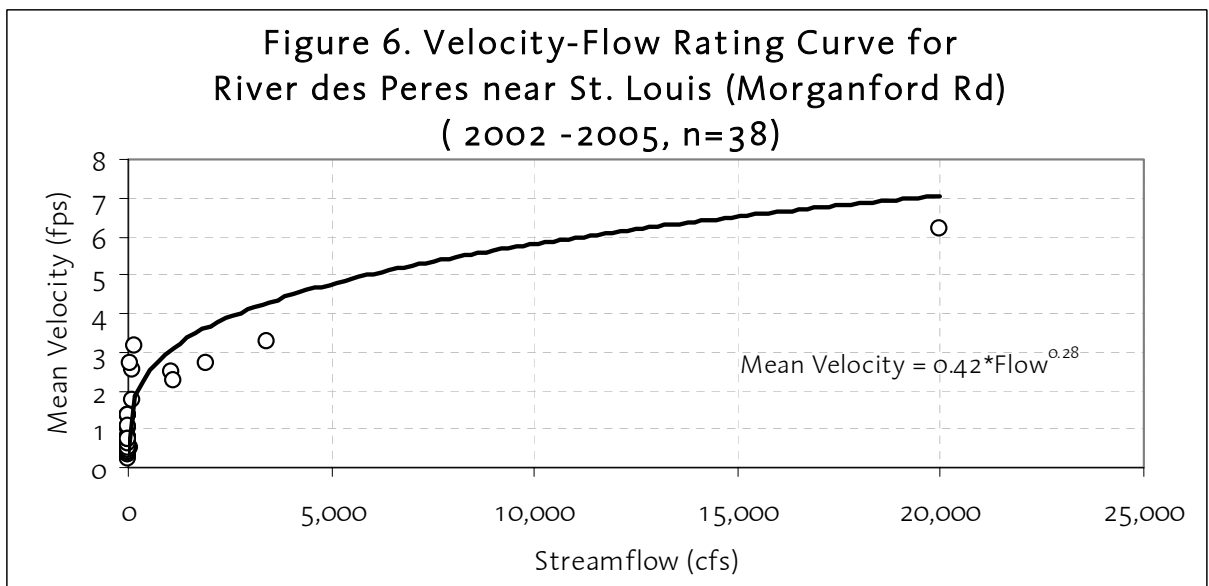
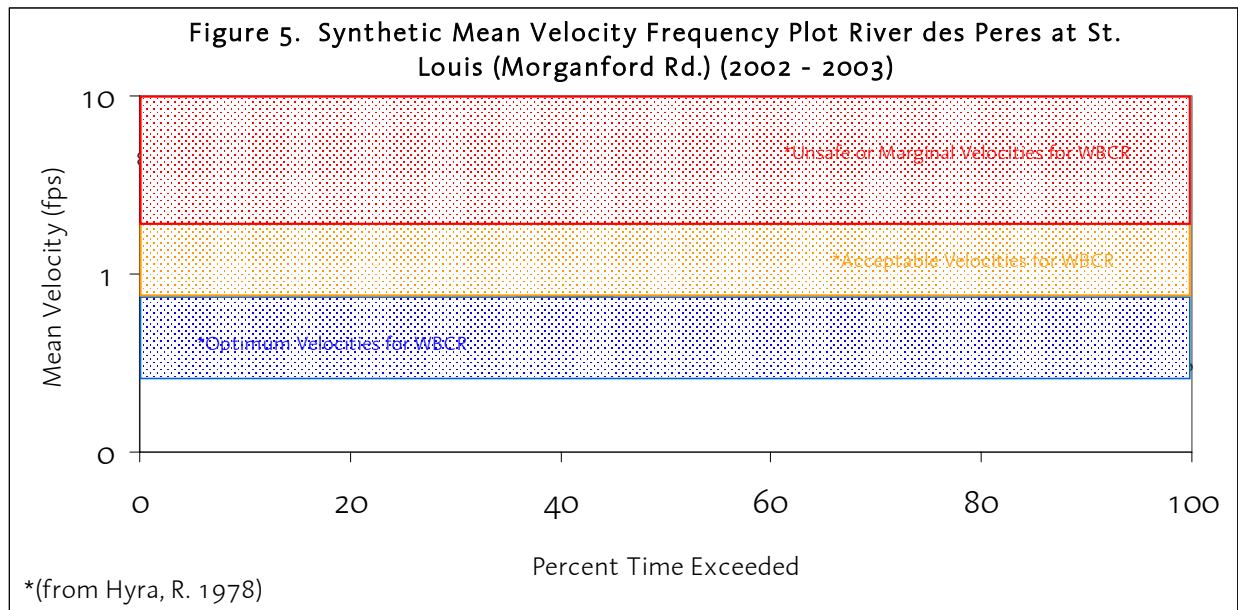
There are no municipal continuous point source discharges of bacteria upstream of the University City gage, yet proposed WBCR-A and WBCR-B criteria are exceeded 94% and 76% of the time, respectively, during baseflow conditions (see Section V.A.2.). Influence from potential diffuse point sources are not presently quantified in the watershed. However, landuses within the study area have remained essentially unchanged since 1975 based upon comparison of Webster Grove Quadrangle Maps generated in 1974 and 1998. This observation suggests that urban stormwater water quality has not significantly changed since 1975.

Attainment of WBCR uses may be challenging for many urban waters. Median bacteria concentrations (fecal coliform - 5,081 colonies/100mL, *E. coli* - 1,750 colonies/100 mL) collected from urban stormwater as part of the EPA National Pollutant Discharge Elimination System (NPDES) Phase 1 stormwater program exceed WBCR-A and WBCR-B criteria (Pitt et al. 2003). As the quality of urban runoff is often associated with land use, any significant changes to land use composition required to meet WBCR criteria may represent a non-remedial condition that prevents use attainment.

4. Hydrologic Modifications Prevent Use Attainment

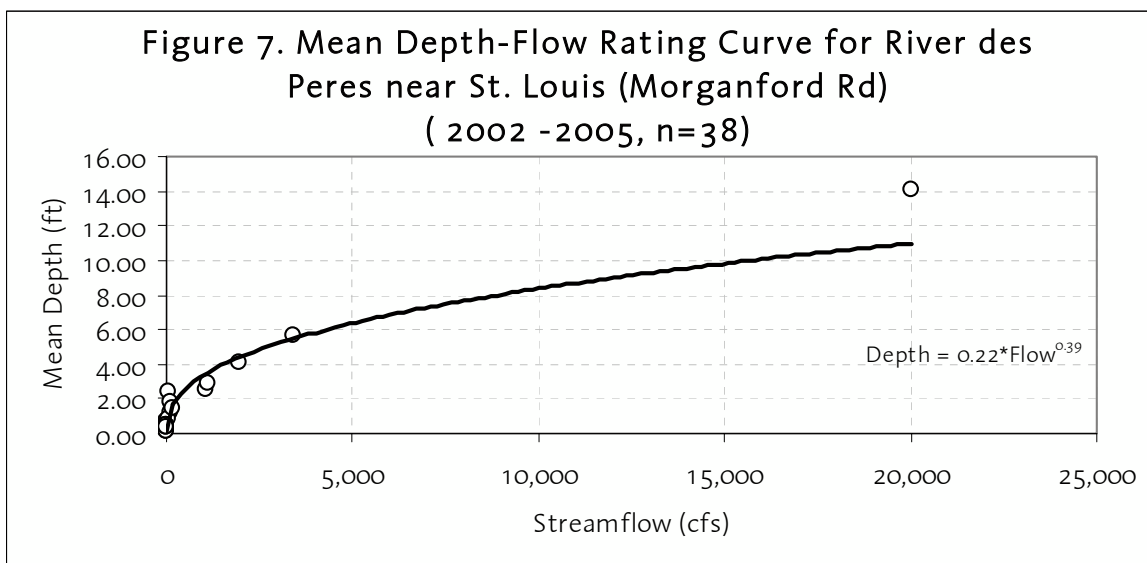
The channelization of River des Peres and development of its watershed represent hydrologic modifications. Much of River des Peres is channelized and lined with concrete. Coupled with increased runoff volumes and peak flows from impervious areas, channelized streams exhibit increased stream velocities for a given flow rate. A frequency plot (Figure 5) of mean velocities for flows recorded at the Morganford gage was developed from the velocity-flow rating curve (Figure 6). According to Hyra (1978), optimal water velocities for swimming range from 0.25 to 0.75 feet per second (fps) while those exceeding 2 fps are considered marginal and unsafe at greater than 3 fps. Marginal swimming conditions based on velocity boundaries are exceeded approximately 7% of the time at the Morganford gage and correspond to flows above approximately 235 cubic feet per second. However, shear forces and extraction challenges presented by concrete embankments may cause safety risks at velocities less than 2 fps.

Further investigation into runoff and velocity regimes in the study area would allow identification of velocity hazards.



Mean depth thresholds (≥ 1.64 feet) set forth in MDNR UAA protocols correspond to flows near 161 cfs according to the depth-flow rating curve developed for the Morganford gage (Figure 7). This analysis demonstrates that WBCR uses may be unattainable due to hydrologic modifications.

These modifications result in high velocities during most periods of stormwater runoff when the depth is otherwise sufficient to support WBCR use. However, the extent to which channel characteristics at the Morganford Road gage are applicable to ungaged sites within the study reach is uncertain.



5. Substantial and Widespread Social and Economic Impact Prevent Use Attainment

MSD is in the process of developing a CSO Long Term Control Plan (LTCP). As part of the LTCP, the economic impacts of different CSO control options will be evaluated. The public participation process will also aid in determining the level of control and financial impact desired by the community. Other cities, such as Boston, Portland, and Milwaukee, have found that support of swimming uses in urban streams is not economically feasible.

VI. CONCLUSIONS

As currently delineated, the classified sections of River des Peres do not support existing WBCR uses due to the absence of observed or frequent historical recreational use and water quality that does not support the use. Therefore, WBCR is not an existing use.

WBCR use is not attainable for River des Peres and should not be designated as such. Low-flow, shallow conditions were observed at all twenty-two survey sites. Although a small pool having depths greater than three feet was observed near Site#15, this area is not representative of the classified segments. This pool is a result of scour from wet weather discharges and should be mitigated by MSD to prevent further scouring and stream instability.

In addition to low-flow, shallow conditions preventing WBCR use attainability, several other use attainability factors may demonstrate that WBCR use is unattainable. Additional information may be needed to determine if natural pollutant levels, non-remedial conditions, hydrologic modifications, or widespread economic impacts also support removing WBCR use for River des Peres.

VII. REFERENCES

- Blunt, M. 2004. Code of State Regulations; Missouri Water Quality Standards, Title 10, Division 20, Chapter 7.
- Gruber, S., L. Kay, R. Kolb, and K. Henry. 2005. Mission Bay Bacterial Source Identification Study. *Stormwater*. Vol. 6, No. 3, pgs 40 -51. Forester Communications, Caledonia, MI.
- Hyra, R. 1978. Methods for Assessing Instream Flows for Recreation. Cooperative Instream Flow Service Group, Fort Collins, CO.
- Missouri Department of Natural Resources. 2004. Recreational Use Attainability Analysis Protocol. Water Protection Program, Jefferson City, MO.
- Pitt, R., A. Maestre, and R. Morquecho. 2003. The National Stormwater Quality Database. Department of Civil and Environmental Engineering. University of Alabama. Tuscaloosa.
- St. Louis Municipalities Phase II Stormwater Planning Committee (SSPC). 2002. "St. Louis County Phase II Storm Water Management Plan"
- Wilkison, D., D. Armstrong, and D. Blevins. 2002. Effects of Wastewater and Combined Sewer Overflows on Water Quality in the Blue River Basin, Kansas City, Missouri and Kansas, July 1998-October 2000. Water-Resources Investigations Report 02-4107. U.S. Geological Survey, Rolla, MO.

MEC Water Resources, Inc.

River des Peres

Whole Body Contact Recreation Use Attainability Analysis

Appendix A

MDNR Recreational Use Stream Survey Forms
(Data Sheets A and B) and
River des Peres Site Photographs

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A – Water Body Identification

Water Body Name: River Des Peres (from USGS 7.5' quad)
8-digit HUC: 07140101
Missouri WBID # 1710 & 1711
County: St. Louis City
Upstream Legal Description: N/A French Survey
Downstream Legal Description: N/A French Survey
Upstream Coordinates: 38.57394, -90.30666 (USG 84, dd,dddd)
Downstream Coordinates: 38.53492, -90.26352 (USG 84, dd,dddd)
Discharger Facility Name(s): N/A
Discharger Permit Number(s): N/A
Number of Sites Evaluated: Twenty-two (22)
Name of Surveyor and Telephone Number: Trent Stober (573) 443-4100
Organization: MEC Water Resources, Inc.
Position: Senior Project Manager

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed:  Date: 7/7/05

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <i>Unclassified</i>	Site Location Description:	
Site Lat/Long: <i>0734647 / 4272909 (utm)</i>	<i>T-1 River des Peres</i>	
Date & Time: <i>10/26/04 1030</i>	Facility Name:	
Personnel: <i>Rm/nm</i>	Permit Number:	
Current Weather Conditions: <i>Overcast</i>	Weather Conditions for Past 7 days: <i>overcast</i>	
Photo Ids: Upstream: <i>1-3</i>	Downstream: <i>4</i>	Other:

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input checked="" type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input checked="" type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <i>Discharge pipes</i>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	28'	Length(ft)	1500'	Ave. Depth(ft)	0.4'	Max. Depth(ft)	0.8'
<input checked="" type="checkbox"/> Run	Width(ft)	48'	Length(ft)	1500'	Ave. Depth(ft)	1.5'	Max. Depth(ft)	1.7'
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Flow	Present?	<u>Yes</u>	No		Estimated (ft ³ /sec):	0.5		

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	28'	Length(ft)	1800'	Ave. Depth(ft)	0.4'	Max. Depth(ft)	0.7'
<input checked="" type="checkbox"/> Run	Width(ft)	48'	Length(ft)	1800'	Ave. Depth(ft)	1.5'	Max. Depth(ft)	1.7'
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Flow	Present?	<u>Yes</u>	No		Estimated (ft ³ /sec):	0.5		

Substrate*: (These values should add up to 100%)

8 %Cobble	30 %Gravel	60 %Sand	~ %Silt	2%Mud/Clay	— %Bedrock
-----------	------------	----------	---------	------------	------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<i>Filamentous algae on rocky substrate along outside of riffle/run/pools.</i>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: James Munt Date: 10/20/24

Organization: MCC Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD - River des Pains

Date/Time: 10/20/04 - 1030

Site/Transect ID Number: 1 - 0734647/4272909 (unl)

Start Time: 1030

End Time: 1100

Measured by: RM/NN

Air Temp: 50°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Stream Morphology At Transect

LDB Angle: 22°

RDB Angle: 10° 15°

Secchi (ft) —

Turbidity (NTU): 5.53

Channel Comp (%):

Cobble 8

Gravel 30

Sand 60

Silt —

Other 2% mud

Bank Composition 100% riparian

Riparian Corridor Density:

Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations:

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface: —

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #: —

[illegible]

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>unclassified</u>		Site Location Description:	
Site Lat/Long: <u># 156 0734848/4272631</u>		<u>T-2 Rweides Peres</u>	
Date & Time: <u>10/20/04 1130</u>		Facility Name:	
Personnel: <u>RN/WM</u>		Permit Number:	
Current Weather Conditions: <u>Overcast</u>		Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>photos 5-8</u>	

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input checked="" type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input checked="" type="checkbox"/> Stairs/ <u>walkway</u>
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle

☒ Other: Discharge pipes

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	28.0	Length(ft)	50	Ave. Depth(ft)	0.2	Max. Depth(ft)	0.5
<input checked="" type="checkbox"/> Run	Width(ft)	31.5	Length(ft)	150	Ave. Depth(ft)	0.75	Max. Depth(ft)	1.1
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Flow	Present?	(Yes)	No		Estimated (ft ³ /sec):	0.8		

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Run	Width(ft)	28'	Length(ft)	500	Ave. Depth(ft)	0.8	Max. Depth(ft)	1.0
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Flow	Present?	Yes	No		Estimated (ft ³ /sec):	0.5		

Substrate*: (These values should add up to 100%)

10 %Cobble	20 %Gravel	50 %Sand	— %Silt	— %Mud/Clay	20 %Bedrock	RM Concrete
------------	------------	----------	---------	-------------	-------------	-------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Filamentous algae on substrate located on edge of water.

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: James Mont Date: 10/20/04

Organization: MEC Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD - River des Peus

Date/Time: 1130 / 10/20/04

Site/Transect ID Number: 2 - 156 #

Start Time: 1130

End Time: 1150

Measured by: RM/MD

Air Temp: 58°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	LDB ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #		
RDB 1	500			150			200				LDB
2	150						250				
3							50				
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Stream Morphology At Transect

LDB Angle: 25° 15'

RDB Angle: _____

Secchi (ft) _____

Turbidity (NTU): _____

@ 31.5 @ 5' 5"

Channel Comp (%):

Cobble 10%

Gravel 20%

Sand 50%

Silt _____

Other Corals 10%

Bank Composition

Flat rip rap - Corals corals

Riparian Corridor Density:

Width of Riparian Area: _____

Composition of Riparian Vegetation: _____

General Observations:

Stream Discharge Measurements

Beginning Stage _____

Ending Stage: _____

Total Q: _____

Channel Width: _____

Total Area: _____

Average Velocity: _____

Distance from Datum to Water Surface:

Start: _____

End: _____

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

[illegible]

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>Unclassified</u>	Site Location Description:	
Site Lat/Long: <u>#1576735043/4272422</u>	<u>T-3 River des Peres</u>	
Date & Time: <u>10/20/04 1200</u>	Facility Name:	
Personnel: <u>RM/NM</u>	Permit Number:	
Current Weather Conditions: <u>Overcast</u>	Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>photos 9-12</u>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input checked="" type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Dozer Tracks, Discharge pipes</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	23'	Length(ft)	20'	Ave. Depth(ft)	0.5	Max. Depth(ft)	0.65
<input checked="" type="checkbox"/> Run	Width(ft)	31.5'	Length(ft)	400'	Ave. Depth(ft)	0.65	Max. Depth(ft)	0.8
<input checked="" type="checkbox"/> Pool	Width(ft)	25'	Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	0.58
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <i>RM</i>		Estimated (ft ³ /sec): 0.3				

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Run	Width(ft)	31.5	Length(ft)	500'	Ave. Depth(ft)	0.5	Max. Depth(ft)	0.7
<input checked="" type="checkbox"/> Pool	Width(ft)	25	Length(ft)	75'	Ave. Depth(ft)	0.45	Max. Depth(ft)	0.6
<input type="checkbox"/> Flow	Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No		Estimated (ft ³ /sec): 0.4				

Substrate*: (These values should add up to 100%)

10 %Cobble	20 %Gravel	30 %Sand	— %Silt	— %Mud/Clay	40 %Bedrock <i>RM</i> <i>concrete</i>
------------	------------	----------	---------	-------------	------------------------------------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Small mats of filamentous algae on substrate, aquatic plants on middle gravel bar

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: *Debra Maut* Date: *10/20/04*

Organization: *MEC Water Resources* Position: *Environmental Specialist*

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD River des Peres

Date/Time: 10/20/04 / 1200

Site/Transect ID Number: 3 1.7#

Start Time: 1200

End Time: 1220

Measured by: RM/MM

Air Temp: 50°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run			Length of Riffles		
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #
1	700	520		500	510		50	520	
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Stream Morphology At Transect

LDB Angle: 20° 1/2 120°

RDB Angle: —

Secchi (ft) —

Turbidity (NTU): —

591.5 @ 5'5"

Channel Comp (%): Cobble 10 Gravel 20 Sand 30 Silt —

Other Coccolite 40

Bank Composition Flat rip rap / concrete lining

Riparian Corridor Density: Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations: —

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface: —

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

Stream Discharge Measurements

Time	Station #	Angle Coefficient	Distance (from Initial Point-ft.)	Width	Depth (ft.)	Observation Depth	Revs.	Interval Time - in seconds	Velocity (f/s)		Adjusted for Hor. Angle	Section Area (ft. ²)	Section Discharge (cfs)
									At Point	Mean in Vertical			
	1 (EOW)		0	1.0'	0.05	0	0	0	0	0			
				5.0'	0.2								
				9.0	0.31								
				13.0	0.43								
				17.0	0.8								
				21.0	0.8								
				25.0	1.42								
				29.0	0.38								
				31.0	0.13								
				31.5	—								
				118.5	—								
				120.5	0.2								
				127.0	0.3								
				128.5	0.46								
				130.5	0.38								
				132.5	0.32								
				140.5	0.47								
				147.5	0.45								
				147.5	0.2								
				147.5	—								

Log Sheet Totals:

Sheet Calculated Discharge:

Aqua Calc Discharge:

Remarks:

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>Unclassified</u>	Site Location Description:	
Site Lat/Long: <u>159 (6735288/4272187)</u>	<u>T-4 River des Peres</u>	
Date & Time: <u>10/20/04 1230</u>	Facility Name:	
Personnel: <u>PM/WW</u>	Permit Number:	
Current Weather Conditions: <u>Overcast</u>	Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>photos 13-16</u>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input checked="" type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Fence opening ~150' downstream</u>	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>discharge pipes</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	25'	Length(ft)	200'	Ave. Depth(ft)	0.45	Max. Depth(ft)	0.72
<input checked="" type="checkbox"/> Run	Width(ft)	25'	Length(ft)	50'	Ave. Depth(ft)	0.45	Max. Depth(ft)	0.75
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Flow	Present?	<u>Yes</u>	No		Estimated (ft ³ /sec):	1.0		

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	20'	Length(ft)	50'	Ave. Depth(ft)	0.5	Max. Depth(ft)	0.6
<input checked="" type="checkbox"/> Run	Width(ft)	23'	Length(ft)	100'	Ave. Depth(ft)	0.45	Max. Depth(ft)	0.56
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input type="checkbox"/> Flow	Present?	<u>Yes</u>	No		Estimated (ft ³ /sec):	1.0		

Substrate*: (These values should add up to 100%)

18 %Cobble	50 %Gravel	30 %Sand	— %Silt	2 %Mud/Clay	— %Bedrock
------------	------------	----------	---------	-------------	------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Gravel bar contains smartweed, willows, little algae on rocky substrate

Water Characteristics*: (Mark all that apply.)

Odor:	<input checked="" type="checkbox"/> Sewage ^①	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None ^{12m}	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other

① Near outfall discharge pipe

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: 10/20/04

Organization: MCC Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MCD - River des piers

Date/Time: 12/10/01 12:30

Site/Transect ID Number: 4

Start Time: 12:30

End Time: 12:43

Measured by: RA

Air Temp: 20.9

Weather Cond: Cloudy, no wind

Stream Morphology Between Transects

Length of Pools				Length of Run			Length of Riffles		
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #
1	520 _{elb}						30 _{LDB}	330	
2							50 _{LDB}	400	
3							200 _{LDB}	600	
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Stream Morphology At Transect

LDB Angle: _____

RDB Angle: _____

Secchi (ft) _____

Turbidity (NTU): _____

Channel Comp (%):

Cobble 18

Gravel 50

Sand 30

Silt _____

Other Mud - 2%

Bank Composition

Flat rip rap / some gravelly soil

Riparian Corridor Density:

Width of Riparian Area: _____

Composition of Riparian Vegetation: _____

General Observations:

Stream Discharge Measurements

Beginning Stage: _____

Ending Stage: _____

Total Q: _____

Channel Width: _____

Total Area: _____

Average Velocity: _____

Distance from Datum to Water Surface:

Start: _____

End: _____

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

[illegible]

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>unclassified</u>		Site Location Description:	
Site Lat/Long: <u>#160(0735523/4271954)</u>		<u>T-5 River des Peres</u>	
Date & Time: <u>10/20/04 1400</u>		Facility Name:	
Personnel: <u>NM/RM</u>		Permit Number:	
Current Weather Conditions: <u>Overcast</u>		Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>photos 17-20</u>	

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input checked="" type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Cemetery</u>	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Service Road, discharge pipes</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Run	Width(ft)	28'	Length(ft)	500'	Ave. Depth(ft)	0.6	Max. Depth(ft)	0.8
<input checked="" type="checkbox"/> Pool	Width(ft)	23'	Length(ft)	500'	Ave. Depth(ft)	0.4	Max. Depth(ft)	0.6
<input checked="" type="checkbox"/> Flow	Present?	Yes	No		Estimated (ft ³ /sec):		0.5	

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	25'	Length(ft)	20'	Ave. Depth(ft)	0.1	Max. Depth(ft)	0.33
<input checked="" type="checkbox"/> Run	Width(ft)	28'	Length(ft)	100'	Ave. Depth(ft)	0.4	Max. Depth(ft)	0.8
<input checked="" type="checkbox"/> Pool	Width(ft)	23'	Length(ft)	300'	Ave. Depth(ft)	0.5	Max. Depth(ft)	1.0
<input type="checkbox"/> Flow	Present?	Yes	No		Estimated (ft ³ /sec):		1.0	

Substrate*: (These values should add up to 100%)

5 %Cobble	50 %Gravel	35 %Sand	— %Silt	— %Mud/Clay	10 % ^{pm} Bedrock Concrete
-----------	------------	----------	---------	-------------	----------------------------------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Smartweed, bullrush, willows on gravel bar, very minimal algae on substrate

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Debra Martin Date: 10/20/04

Organization: MEL Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD- River Jock River

Date/Time: 10/20/04 14:00

Site/Transect ID Number: T-5 #160

Start Time: 1400

End Time: 1415

Measured by: NM/KM

Air Temp: 50°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Stream Morphology At Transect

LDB Angle: 23% 13°

RDB Angle: 27% 16°

Secchi (ft) —

Turbidity (NTU): —

Channel Comp (%):

Cobble 5

Gravel 50

Sand 35

Silt —

Other 10 Concrete

Bank Composition

Flat rip rap. 100% concrete.

Riparian Corridor Density:

Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations:

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface:

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

Stream Discharge Measurements

Time	Station #	Angle Coefficient	Distance (from Initial Point-ft.)	Width	Depth (ft.)	Observation Depth	Revs.	Interval Time - in seconds	Velocity (f/s)		Adjusted for Hor. Angle	Section Area (ft. ²)	Section Discharge (cfs)
									At Point	Mean in Vertical			
	1 (EOW)		0	0	0.1	0	0	0	0	0			
				4.0	—								
				8.0	—								
				12.0	0.2								
				16.0	0.2								
				20.0	0.7								
				24.0	0.5								
				28.0	0.8								
				32.0	0.6								
				36.0	1.0								
				40.0	0.6								
				44.0	0.2								
	EOW			45.0	—								
				124	—								
				128	0.6								
				132	0.6								
				136	0.4								
				140	0.3								
				144	0.2								
	EOW			147.3	0								

Log Sheet Totals:

Sheet Calculated Discharge:

Aqua Calc Discharge:

Remarks:

45

79

124

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>unclassified</u>	Site Location Description:	
Site Lat/Long: # <u>161(0735712/4271756)</u>	<u>T-6 River des Peres</u>	
Date & Time: <u>10/20/04 1425</u>	Facility Name:	
Personnel: <u>NM/RM</u>	Permit Number:	
Current Weather Conditions: <u>overcast</u>	Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>photos 20-73</u>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Discharge pipes</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	30'	Length(ft)	300'	Ave. Depth(ft)	0.60	Max. Depth(ft)	0.75
<input type="checkbox"/> Run	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Flow	Present?	Yes	No		Estimated (ft ³ /sec):	0.8		

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Run	Width(ft)	39.0'	Length(ft)	100'	Ave. Depth(ft)	0.65'	Max. Depth(ft)	0.85
<input checked="" type="checkbox"/> Pool	Width(ft)	36.0'	Length(ft)	400'	Ave. Depth(ft)	0.25'	Max. Depth(ft)	0.35
<input checked="" type="checkbox"/> Flow	Present?	Yes	No		Estimated (ft ³ /sec):	1.0		

Substrate*: (These values should add up to 100%)

10 %Cobble	30 %Gravel	50 %Sand	— %Silt	— %Mud/Clay	10 %Bedrock
------------	------------	----------	---------	-------------	-------------

Concrete

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Smartweed, Bullrush, willows on gravel bar, Very little algae on substrate, Allothoneos Nitidus in channel.

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Allothoneos

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: *Renée Mante* Date: 10/20/04

Organization: MCC Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD - River Inc. Perms

Date/Time: 10/10/04 14:30

Site/Transect ID Number: T-6 161st

Start Time: 1425

End Time: 1445

Measured by: RW/WW

Air Temp: 60°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles		
LDB	#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #
LDB	1	1500	160"					110 (1)		
RIB	2	100	160"					110 (1)		
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									

Stream Morphology At Transect

LDB Angle: —

RDB Angle: —

Secchi (ft) —

Turbidity (NTU): —

Channel Comp (%): Cobble 10 Gravel 30 Sand 50 Silt —
Other 10 Concrete

Bank Composition Some small trees, mostly brush, some grass

Riparian Corridor Density: — Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations: @ Bridge 0.1 mi from 100', several riffles going in various directions, length 10', avg depth 0.3'

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface: —

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

Stream Discharge Measurements

Time	Station #	Angle Coefficient	Distance (from Initial Point-ft.)	Width	Depth (ft.)	Observation Depth	Revs.	Interval Time - in seconds	Velocity (f/s)		Adjusted for Hor. Angle	Section Area (ft. ²)	Section Discharge (cfs)
									At Point	Mean in Vertical			
	1 (EOW)		0	0.0	0.2	0	0	0	0	0			
				4.0	0.6								
				6.0	0.8								
				12.0	0.8								
				16.0	0.8								
				20.0	0.85								
				24.0	0.7								
				28.0	0.65								
				32.0	0.65								
				36.0	0.3								
	EOW			40.0	0								
				114.4	0								
				118.4	0.03								
				122.4	0.03								
				126.4	0.4								
				130.4	0.3								
				134.4	0.3								
				138.4	0.35								
				142.4	0.30								
				146.4	0.15								
	EOW			147.7	0								

Log Sheet Totals:

Sheet Calculated Discharge:

Aqua Calc Discharge:

Remarks:

72.6
32.0
114.4
32.3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>unclassified</u>		Site Location Description:	
Site Lat/Long: <u>#162(0735921/4271544)</u>		<u>T-7 River des Peres</u>	
Date & Time: <u>10/20/04 1500</u>		Facility Name:	
Personnel: <u>Rm/NM</u>		Permit Number:	
Current Weather Conditions: <u>Overcast</u>		Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>photos 27-29</u>	

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input checked="" type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle

☒ Other: Discharge pipes, photo* 2A access service road.

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	16'	Length(ft)	100'	Ave. Depth(ft)	0.4	Max. Depth(ft)	0.8
<input type="checkbox"/> Run	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Flow	Present?	Yes	No		Estimated (ft ³ /sec):	0.5		

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	16'	Length(ft)	20'	Ave. Depth(ft)	0.2	Max. Depth(ft)	0.5
<input checked="" type="checkbox"/> Run	Width(ft)	16'	Length(ft)	50'	Ave. Depth(ft)	0.4	Max. Depth(ft)	0.8
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Flow	Present?	Yes	No		Estimated (ft ³ /sec):	0.7		

Substrate*: (These values should add up to 100%)

15 %Cobble	30 %Gravel	50 %Sand	— %Silt	— %Mud/Clay	5 %Bedrock	run concrete
------------	------------	----------	---------	-------------	------------	--------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Willows, smartweed along RDB & LDB, gravel bar in river, little to no algae on substrate

Water Characteristics*: (Mark all that apply.)

Odor:	<input checked="" type="checkbox"/> Sewage ①	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

① Near pump station, photo #26, outfall pipe flowing under river bed.

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: James Martin Date: 10/20/04

Organization: Mec Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD- River de Perce

Date/Time: 12/20/04 15:00

Site/Transect ID Number: T-7 162nd

Start Time: 1500

End Time: 1515

Measured by: RN/NN

Air Temp: 50 °F

Weather Cond: overcast

Stream Morphology Between Transects

Length of Pools				Length of Run			Length of Riffles		
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #
LDB 1		500					LDB 100'	500	
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Stream Morphology At Transect

LDB Angle: —

RDB Angle: —

Secchi (ft) —

Turbidity (NTU): —

Channel Comp (%):

Cobble 15

Gravel 30

Sand 50

Silt —

Other 5 concrete

Bank Composition rip rap, cement, gravel

Riparian Corridor Density:

Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations:

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface:

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

[illegible]
$$\begin{array}{r} 110 \\ 29 \\ \hline 139 \end{array}$$

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>unclassified</u>		Site Location Description:	
Site Lat/Long: <u>#163(0736027/4271522)</u>		<u>T-8 River des Peres</u>	
Date & Time: <u>10/20/04 1525</u>		Facility Name:	
Personnel: <u>RM/NM</u>		Permit Number:	
Current Weather Conditions: <u>Overcast</u>		Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>Photos 36-37 38-39 RM 33</u>	

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>RM Discharge pipes</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Pool	Width(ft) 45'	Length(ft) 500'	Ave. Depth(ft) 0.8	Max. Depth(ft) 1.2
<input type="checkbox"/> Flow	Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Estimated (ft ³ /sec):	Run 0

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft) 45'	Length(ft) 50'	Ave. Depth(ft) 0.95	Max. Depth(ft) 1.3
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Flow	Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Estimated (ft ³ /sec):	1.0

Substrate*: (These values should add up to 100%)

15 %Cobble	30 %Gravel	50 %Sand	— %Silt	— %Mud/Clay	5 %Bedrock ^{run} concrete
------------	------------	----------	---------	-------------	---------------------------------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Willows, Bullrush, Smartweed along gravel bed, LDB/RDB, No algae on substrate

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: James Monte Date: 10/20/04

Organization: Mt Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: 1152- River des Peres

Date/Time: 10-20-07 / 1525

Site/Transect ID Number: 163 T-8

Start Time: 1525

End Time: 1540

Measured by: DM/NM

Air Temp: 50°F

Weather Cond: 2000 ft

Stream Morphology Between Transects

Length of Pools				Length of Run			Length of Riffles		
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #
1							75'	①	
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Stream Morphology At Transect

LDB Angle: —

RDB Angle: —

Secchi (ft) —

Turbidity (NTU): —

Channel Comp (%):

Cobble 15

Gravel 30

Sand 50

Silt —

Other 5 concrete

Bank Composition

Flat rip rap, concrete overlay

Riparian Corridor Density:

Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations:

① At 600' from T-2, LDB channel crosses to R side.

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface:

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

[illegible]

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <i>unclassified</i>	Site Location Description:	
Site Lat/Long: <i>*164(0736564/4271510)</i>	<i>T-9 River des Paves</i>	
Date & Time: <i>10/20/04 1545</i>	Facility Name:	
Personnel: <i>RM / NM</i>	Permit Number:	
Current Weather Conditions: <i>Overcast</i>	Weather Conditions for Past 7 days: <i>Overcast</i>	
Photo Ids: Upstream:	Downstream:	Other: <i>photos 35-38 RM 34-37</i>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle

☒ Other: *Service Roads, discharge pipes*

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input type="checkbox"/> Run	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Pool	Width(ft)	60	Length(ft)	75	Ave. Depth(ft)	1.1	Max. Depth(ft)	2.0
<input type="checkbox"/> Flow	Present?	Yes	<input checked="" type="radio"/> No		Estimated (ft ³ /sec):			

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input type="checkbox"/> Run	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Pool	Width(ft)	165'	Length(ft)	200'	Ave. Depth(ft)	1.0	Max. Depth(ft)	1.8
<input type="checkbox"/> Flow	Present?	Yes	<input checked="" type="radio"/> No		Estimated (ft ³ /sec):			

Substrate*: (These values should add up to 100%)

20 %Cobble	30 %Gravel	30 %Sand	— %Silt	— %Mud/Clay	20 %Bedrock <i>concrete</i>
------------	------------	----------	---------	-------------	--------------------------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

No algae on substrate, willows, smothered along gravel bar / banks

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Dave Monte Date: 10/20/04

Organization: MEC Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MEDC River Log Pond

Date/Time: 10/20/01 1:15 PM

Site/Transect ID Number: 124 T-9

Start Time: 1545

End Time: 1600

Measured by: RM/WM

Air Temp: 52°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run			Length of Riffles		
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Stream Morphology At Transect

LDB Angle: —

RDB Angle: —

Secchi (ft) —

Turbidity (NTU): —

Channel Comp (%): Cobble 20 Gravel 30 Sand 30 Silt —

Other 20 Concrete

Bank Composition Flat rip rap, concrete curbing

Riparian Corridor Density: — Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations: —

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface: —

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

Stream Discharge Measurements

Time	Station #	Angle Coefficient	Distance (from Initial Point-ft.)	Width	Depth (ft.)	Observation Depth	Revs.	Interval Time - in seconds	Velocity (f/s)		Adjusted for Hor. Angle	Section Area (ft. ²)	Section Discharge (cfs)
									At Point	Mean in Vertical			
	1 (EOW)		0	0.5	0.5	0	0	0	0	0			
				2.5	1.0								
				6.5	1.1								
				8.5	0.7								
				9.5	0.3								
	EOW			11.0	0								
				63.0	0								
				68.0	0.6								
				73.0	1.0								
				78.0	1.6								
				83.0	2.0								
				88.0	1.3								
				93.0	0.7								
				98.0	0.6								
				103.0	0.35								
				108	0.25								
				113	0.2								
				118	0.3								
				123	0.2								
				128	0.2								
				133	0.7								
				138	0.7								
				143	0.65								
				148	0.60								
				153	0.5								
				156	0.5								
	EOW			158	0								

Log Sheet Totals:

Sheet Calculated Discharge:

Aqua Calc Discharge:

Remarks:

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1711</u>	Site Location Description:	
Site Lat/Long: <u>#165 (0734840) 427133</u>	<u>T-10 River des Peres</u>	
Date & Time: <u>10/20/04 1620</u>	Facility Name:	
Personnel: <u>PM/NN</u>	Permit Number:	
Current Weather Conditions: <u>Overcast</u>	Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>photos 38-42</u>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Discharge Pipes, outfall drains, Service Roads</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Run	Width(ft) 24'	Length(ft) 500'	Ave. Depth(ft) 0.85	Max. Depth(ft) 1.0
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Flow	Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Estimated (ft ³ /sec):	

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft) 27'	Length(ft) 30'	Ave. Depth(ft) 0.8	Max. Depth(ft) 1.0
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Flow	Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Estimated (ft ³ /sec): 0.5	

Substrate*: (These values should add up to 100%)

50 %Cobble	40 %Gravel	10 %Sand	— %Silt	— %Mud/Clay	— %Bedrock
------------	------------	----------	---------	-------------	------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

grasses, willows, smartweed on banks ; gravel bar

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Daniel Maut Date: 10/20/04

Organization: MFC Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSO - River des Peres

Date/Time: 10/20/04 1320

Site/Transect ID Number: T-10 165 +

Start Time: 1620

End Time: 1630

Measured by: Rm/Nm

Air Temp: 50°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run			Length of Riffles		
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #
1							50	550'	
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Stream Morphology At Transect

LDB Angle: —

RDB Angle: —

Secchi (ft) —

Turbidity (NTU): —

Channel Comp (%):

Cobble 50

Gravel 40

Sand 10

Silt —

Other

Bank Composition

rip rap, concrete, clay

Riparian Corridor Density:

Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations:

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface:

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

[illegible]

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1711</u>	Site Location Description:	
Site Lat/Long: <u>#166(073710N/427108W)</u>	<u>T-11 River des Peres</u>	
Date & Time: <u>10/20/04 1630</u>	Facility Name:	
Personnel: <u>RN/NM</u>	Permit Number:	
Current Weather Conditions: <u>Overcast</u>	Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>photos 43-46</u>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Discharge pipes</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Run	Width(ft)	40	Length(ft)	200	Ave. Depth(ft)	0.75	Max. Depth(ft)	1.0
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input type="checkbox"/> Flow	Present?	Yes	<input checked="" type="checkbox"/> No		Estimated (ft ³ /sec):			

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Run	Width(ft)	35	Length(ft)	300'	Ave. Depth(ft)	0.75	Max. Depth(ft)	1.08
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input type="checkbox"/> Flow	Present?	Yes	<input checked="" type="checkbox"/> No		Estimated (ft ³ /sec):			

Substrate*: (These values should add up to 100%)

40 %Cobble	40 %Gravel	20 %Sand	— %Silt	— %Mud/Clay	— %Bedrock
------------	------------	----------	---------	-------------	------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

grasses, willows, smartweed along banks & in gravel bar in channel

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Deane Mont Date: 10/20/04

Organization: MEX Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD - River des Peres

Date/Time: 10/20/04 1630

Site/Transect ID Number: T-11 - 166[#]

Start Time: 1630

End Time: 1645

Measured by: RMN

Air Temp: 50°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run			Length of Riffles		
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #
1				700	675		75'	600	
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Stream Morphology At Transect

LDB Angle: 14° 25'
3' 5.7"

RDB Angle: 11° 18'
40.5' 5' 7"

Secchi (ft) —

Turbidity (NTU): —

Channel Comp (%): Cobble 40 Gravel 40 Sand 20 Silt —
Other —

Bank Composition Flt rip rap / concrete lining

Riparian Corridor Density: Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations: —

Stream Discharge Measurements

Beginning Stage — Ending Stage: — Total Q: —

Channel Width: — Total Area: — Average Velocity: —

Distance from Datum to Water Surface: — Start: — End: —

Meas. type: Price AA Pygmy Data Coll. Type: Aqua Calc Sheet Aqua Calc Transect #: —

Stream Discharge Measurements

[illegible]**Log Sheet Totals:**

Sheet Calculated Discharge:

Aqua Calc Discharge:

Remarks:

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1711</u>	Site Location Description:
Site Lat/Long: <u>#167 (0737400/4271040)</u>	<u>T-12, River des Peres</u>
Date & Time: <u>10/20/04 1650</u>	Facility Name:
Personnel: <u>RNLwm</u>	Permit Number:
Current Weather Conditions: <u>overcast</u>	Weather Conditions for Past 7 days: <u>overcast</u>
Photo Ids: Upstream:	Downstream: Other: <u>photos 47-50</u>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other
Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)				

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Discharge pipes, service roads</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Run	Width(ft) 35'	Length(ft) 100'	Ave. Depth(ft) 0.8	Max. Depth(ft) 1.1
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Flow	Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Estimated (ft ³ /sec):	

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft) 40'	Length(ft) 50'	Ave. Depth(ft) 0.1	Max. Depth(ft) 0.5
<input checked="" type="checkbox"/> Run	Width(ft) 35'	Length(ft) 300'	Ave. Depth(ft) 0.5	Max. Depth(ft) 1.0
<input checked="" type="checkbox"/> Pool	Width(ft) 40'	Length(ft) 75'	Ave. Depth(ft) 1.5	Max. Depth(ft) 1.9
<input checked="" type="checkbox"/> Flow	Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Estimated (ft ³ /sec): 0.5	

Substrate*: (These values should add up to 100%)

70 %Cobble	30 %Gravel	50 %Sand	— %Silt	— %Mud/Clay	— %Bedrock
------------	------------	----------	---------	-------------	------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

grasses / smartweed / willows along banks & in gravel bar. No algae on substrate

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Denise Muth Date: 10/20/04

Organization: NEC Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSL - River Los Pinos

Date/Time: 10/20/04 / 1650

Site/Transect ID Number: T-12 - 167*

Start Time: 1650

End Time: 1705

Measured by: Rm/Nm

Air Temp: 50°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	End GPS #
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Stream Morphology At Transect

LDB Angle: —

RDB Angle: —

Secchi (ft) —

Turbidity (NTU): —

Channel Comp (%): Cobble 20 Gravel 30 Sand 50 Silt —
Other —

Bank Composition Flat rip rap / concrete overlay

Riparian Corridor Density: Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations: —

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface: —

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

[illegible]

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1711</u>	Site Location Description:	
Site Lat/Long: <u>#168 (0737683/4270712)</u>	<u>T-13 River des Peres</u>	
Date & Time: <u>10/20/04 1710</u>	Facility Name:	
Personnel: <u>NM/RM</u>	Permit Number:	
Current Weather Conditions: <u>Overcast</u>	Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>photos 51-54</u>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other
Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)				

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Discharge pipes</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Run	Width(ft) 12'	Length(ft) 50'	Ave. Depth(ft) 0.8	Max. Depth(ft) 1.0
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Flow	Present?	Yes <input checked="" type="checkbox"/> No	Estimated (ft ³ /sec):	

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Run	Width(ft) 25'	Length(ft) 500'	Ave. Depth(ft) 1.1	Max. Depth(ft) 1.5
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Flow	Present?	Yes <input checked="" type="checkbox"/> No	Estimated (ft ³ /sec):	

Substrate*: (These values should add up to 100%)

30% Cobble	10 % Gravel	10 % Sand	— % Silt	— % Mud/Clay	50 % Bedrock ^{run}
------------	-------------	-----------	----------	--------------	-----------------------------

concrete

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

No algae on substrate, willows, smartweed, grasses along banks, in gravel bar.

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Janice Mautz Date: 10/20/04

Organization: MEC Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD - River Section

Date/Time: 10/20/04 1710

Site/Transect ID Number: T-13 168"

Start Time: 1710

End Time: 1725

Measured by: RN/NM

Air Temp: 50°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #		
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Stream Morphology At Transect

LDB Angle: 96.5°

RDB Angle: 10° 18'

Secchi (ft) —

Turbidity (NTU): —

Channel Comp (%): Cobble 30 Gravel 10 Sand 10 Silt —

Other 50 Concrete

Bank Composition flat rip rap + concrete on inner

Riparian Corridor Density: Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations: —

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface: —

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

[illegible]

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1711</u>	Site Location Description:	
Site Lat/Long: <u>#161/0737824/4270693</u>	<u>T-14 River des Peres</u>	
Date & Time: <u>10/20/04 1740</u>	Facility Name:	
Personnel: <u>RM/NM</u>	Permit Number:	
Current Weather Conditions: <u>Overcast</u>	Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>photos 55-58</u>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other
Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)				

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Interstate / Hwy w/ walkway</u>	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Discharge pipes</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Run	Width(ft) 45	Length(ft) 200	Ave. Depth(ft) 1.5	Max. Depth(ft) 1.9
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Flow	Present? <u>Yes</u>	No	Estimated (ft ³ /sec):	0.2

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Run	Width(ft) 45'	Length(ft) 300'	Ave. Depth(ft) 1.2	Max. Depth(ft) 1.7
<input checked="" type="checkbox"/> Pool #170	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Flow	Present? <u>Yes</u>	No	Estimated (ft ³ /sec):	0.2

Substrate*: (These values should add up to 100%)

30% Cobble	35 %Gravel	20 %Sand	— %Silt	5 %Mud/Clay	10 %Bedrock ^{run} _{loamcrete}
------------	------------	----------	---------	-------------	----------------------------------------------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

No algae, willows, smartweed, grasses on banks & gravel bar.

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Steve Mart Date: 10/20/04

Organization: MEC Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSB - River Loop Project

Date/Time: 10/26/06 1740

Site/Transect ID Number: #169 T-14

Start Time: 1740

End Time: 1760

Measured by: RW/NM

Air Temp: 50°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	End GPS #
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Stream Morphology At Transect

LDB Angle: —

RDB Angle: —

Secchi (ft) —

Turbidity (NTU): —

Channel Comp (%): Cobble 30 Gravel 35 Sand 20 Silt —

Other mud - 5%, concrete 10%

Bank Composition Flat rip rap / concrete on edge

Riparian Corridor Density: Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations: —

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface: —

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #: —

Stream Discharge Measurements													
Time	Station #	Angle Coefficient	Distance (from initial Point-ft.)	Width	Depth (ft.)	Observation Depth	Revs.	Interval Time - in seconds	Velocity (f/s)		Adjusted for Hor. Angle	Section Area (ft. ²)	Section Discharge (cfs)
									At Point	Mean in Vertical			
	1 (EOW)		0	1.0	0.3	0	0	0	0	0			
				5.0	2.2								
				9.0	1.3								
				14.0	1.7								
				19.0	1.8								
				24.0	1.9								
				29.0	1.9								
				34.0	1.8								
				39.0	1.5								
				44.0	1.3								
				49.0	2.5								
				54.0	2.2								
				59.0	2.3								
				64.0	2.0								
<div>Log Sheet Totals: _____</div> <div>Sheet Calculated Discharge: _____</div> <div>Aqua Calc Discharge: _____</div>													
Remarks:													

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1711</u>	Site Location Description:
Site Lat/Long: # <u>171 (0737778/4270373)</u>	<u>T-15 River des Peres</u>
Date & Time: <u>10/20/04 1800</u>	Facility Name:
Personnel: <u>NM/PM</u>	Permit Number:
Current Weather Conditions: <u>overcast</u>	Weather Conditions for Past 7 days: <u>Overcast</u>
Photo Ids: Upstream:	Downstream: Other: <u>photos 59-62</u>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Discharge drains/pipes</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input type="checkbox"/> Run	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Pool	Width(ft)	40'	Length(ft)	50'	Ave. Depth(ft)	0.5	Max. Depth(ft)	1.0
<input type="checkbox"/> Flow	Present?	Yes	No		Estimated (ft ³ /sec):			

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	20	Length(ft)	25	Ave. Depth(ft)	0.3	Max. Depth(ft)	0.4
<input type="checkbox"/> Run	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input type="checkbox"/> Flow	Present?	Yes	No		Estimated (ft ³ /sec): 0.5			

Substrate*: (These values should add up to 100%)

20 %Cobble	50 %Gravel	30 %Sand	— %Silt	— %Mud/Clay	— %Bedrock
------------	------------	----------	---------	-------------	------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

No algae on substrate, grasses, willows, smartweed on gravel bar, banksides

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Debra Maitz Date: 10/20/04

Organization: MEC Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: Mid River

Date/Time: 10/15/18

Site/Transect ID Number: 15/171

Start Time: 1800

End Time: 215

Measured by: M. J. M.

Air Temp: 60°F

Weather Cond: Overcast

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #
1		170 way pt									
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Stream Morphology At Transect

LDB Angle:

RDB Angle:

Secchi (ft)

Turbidity (NTU):

Channel Comp (%):

Cobble 20

Gravel 50

Sand 30

Silt

Other

Bank Composition Flat rip rap / concrete lining

Riparian Corridor Density:

Width of Riparian Area:

Composition of Riparian Vegetation:

General Observations: ① Pool depth 7.3', below 170 way pt (0737795/4270535) utm

Stream Discharge Measurements

Beginning Stage

Ending Stage:

Total Q:

Channel Width:

Total Area:

Average Velocity:

Distance from Datum to Water Surface:

Start:

End:

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

[illegible]

Aqua Calc Discharge:

I:\General Data Sheets\Stream Morphology & Discharge Form

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1710</u>		Site Location Description:	
Site Lat/Long: <u>*172 (0737773 / 4270.20)</u>		<u>T-16 River des Peres</u>	
Date & Time: <u>10/20/04 1815</u>		Facility Name:	
Personnel: <u>Paul NM</u>		Permit Number:	
Current Weather Conditions: <u>Overcast</u>		Weather Conditions for Past 7 days: <u>Overcast</u>	
Photo Ids: Upstream:	Downstream:	Other:	

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Industrial</u>	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle

☒ Other: Discharge pipes

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft)	12'	Length(ft)	20'	Ave. Depth(ft)	0.4	Max. Depth(ft)	0.62
<input type="checkbox"/> Run	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Flow	Present?	Yes	No		Estimated (ft ³ /sec):	0.55		

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Run	Width(ft)	50	Length(ft)	300	Ave. Depth(ft)	0.5	Max. Depth(ft)	0.7
<input type="checkbox"/> Pool	Width(ft)		Length(ft)		Ave. Depth(ft)		Max. Depth(ft)	
<input checked="" type="checkbox"/> Flow	Present?	Yes	No		Estimated (ft ³ /sec):	1.0		

Substrate*: (These values should add up to 100%)

40 %Cobble	30 %Gravel	30 %Sand	— %Silt	— %Mud/Clay	— %Bedrock
------------	------------	----------	---------	-------------	------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Smartweed, on gravel bar, willows along banks, no algae on substrate

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Steve Mart Date: 10/20/04

Organization: Mc Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD - River Discharge

Date/Time: 10/20/04 1:00

Site/Transect ID Number: #172, T-1

Start Time: 1815

End Time: 1845

Measured by: RM/NM

Air Temp: 50°F

Weather Cond: overcast

Stream Morphology Between Transects

Length of Pools				Length of Run			Length of Riffles		
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Stream Morphology At Transect

LDB Angle: —

RDB Angle: —

Secchi (ft) —

Turbidity (NTU): 3.82

Channel Comp (%): Cobble 40 Gravel 30 Sand 30 Silt —
Other —

Bank Composition flat rip rap, concrete lining

Riparian Corridor Density: — Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations: —

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface: —

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #: —

[illegible]

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1710</u>	Site Location Description:	
Site Lat/Long: <u>0737806 / 4269897</u>	<u>17 - River Des Peres</u>	
Date & Time: <u>10/21/04 1435</u>	Facility Name:	
Personnel: <u>NM/CL</u>	Permit Number:	
Current Weather Conditions: <u>Cloudy</u>	Weather Conditions for Past 7 days: <u>Cloudy</u>	
Photo Ids: Upstream:	Downstream:	Other:

Pic #s 096-009

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Roads - both sides</u>	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Pool	Width(ft) 60	Length(ft) 100	Ave. Depth(ft) 0.5	Max. Depth(ft) 1.5
<input checked="" type="checkbox"/> Flow	Present? Yes	No	Estimated (ft ³ /sec): @ 10	

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft) 75	Length(ft) 50	Ave. Depth(ft) 0.8	Max. Depth(ft) 1.0
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Pool	Width(ft) 40	Length(ft) 100	Ave. Depth(ft) 0.4	Max. Depth(ft) 1.5
<input checked="" type="checkbox"/> Flow	Present? Yes	No	Estimated (ft ³ /sec): @ 10	

Substrate*: (These values should add up to 100%)

80 %Cobble	20 %Gravel	0 %Sand	0 %Silt	0 %Mud/Clay	0 %Bedrock
------------	------------	---------	---------	-------------	------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

— some benthic algae

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Carrotty Smith Date: 10/21/04

Organization: _____ Position: _____

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD UAA

Date/Time: 10/21/04 14:35

Site/Transect ID Number: 17 - River Das Peres

Start Time: 1435

End Time: 1450

Measured by: NM/CL

Air Temp: 55°F

Weather Cond: Cloudy

~~Site~~ 181 GPS

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Taken @ RDB

Stream Morphology At Transect

LDB Angle: 14°/8°

RDB Angle: 29°/16°

Secchi (ft) —

Turbidity (NTU): —

@ RDB (95')

@ 95' from LDB

Channel Comp (%): Cobble 80 Gravel 20 Sand — Silt —

Other

Bank Composition Concrete / Riprap

Riparian Corridor Density: Width of Riparian Area: —

Composition of Riparian Vegetation: —

General Observations: —

Stream Discharge Measurements

Beginning Stage —

Ending Stage: —

Total Q: —

Channel Width: —

Total Area: —

Average Velocity: —

Distance from Datum to Water Surface: —

Start: —

End: —

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #: —

[illegible]

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1710</u>	Site Location Description:
Site Lat/Long: ^{NM} <u>70°21'04" 107°37'12" 4269592</u>	<u>River Des Peres - 18</u>
Date & Time: <u>15:00 10/20/04</u>	Facility Name:
Personnel: <u>NM/CL</u>	Permit Number:
Current Weather Conditions: <u>cloudy</u>	Weather Conditions for Past 7 days: <u>Overcast</u>
Photo Ids: Upstream: <u>101</u>	Downstream: <u>103</u> Other: <u>Banks - 100 & 102</u>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft) 100	Length(ft) 200	Ave. Depth(ft) 0.4	Max. Depth(ft) 1.0
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Flow	Present?	Yes	No	Estimated (ft ³ /sec): @ 10

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft) 60	Length(ft) 300	Ave. Depth(ft) 0.6	Max. Depth(ft) 0.8
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Flow	Present?	Yes	No	Estimated (ft ³ /sec): @ 10

Substrate*: (These values should add up to 100%)

80 %Cobble	20 %Gravel	0 %Sand	0 %Silt	0 %Mud/Clay	%Bedrock
------------	------------	---------	---------	-------------	----------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

— some benthic algae

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Cassidy Schubert Date: 10/21/09
 Organization: _____ Position: _____

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD - VAA

Date/Time: 10/21/04 15:00

Site/Transect ID Number: 18 - River Des Peres

Start Time: 15:00

End Time: 15:15

Measured by: NM/CL

Air Temp: 55°F

Weather Cond: Cloudy

GPS Pnt - 182

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	#	ft.	Start GPS #	End GPS #	#	ft.	Start GPS #	End GPS #
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Stream Morphology At Transect

LDB Angle:

RDB Angle:

Secchi (ft)

Turbidity (NTU):

Channel Comp (%): Cobble 80 Gravel 20 Sand Silt
Other

Bank Composition Concrete Riprap

Riparian Corridor Density: Width of Riparian Area: 0' ~~LDB = 30'~~ RDB ~~0~~ LDB = 0 RDB = 0
Composition of Riparian Vegetation:

General Observations:

Stream Discharge Measurements

Beginning Stage Ending Stage: Total Q:
Channel Width: Total Area: Average Velocity:
Distance from Datum to Water Surface: Start: End:

Meas. type: Price AA Pygmy Data Coll. Type: Aqua Calc Sheet Aqua Calc Transect #:

Stream Discharge Measurements

Time	Station #	Angle Coefficient	Distance (from Initial Point-ft.)	Width	Depth (ft.)	Observation Depth	Revs.	Interval Time - in seconds	Velocity (f/s)		Adjusted for Hor. Angle	Section Area (ft. ²)	Section Discharge (cfs)
									At Point	Mean in Vertical			
	1 (EOW)		0		0	0	0	0	0	0			
	+		1		0.7								
			6		1.15								
			11		1.0								
			16		1.05								
			20		0.4								
			22		0.1								
			23		0								
			34		0								
			35		0.2								
			37		0.23								
			39		0.2								
			40		0								
			46		0								
			47		0.4								
			52		0.6								
			57		0.65								
			62		0.5								
			67		0.5								
			72		0.5								
			77		0.2								
			82		0.3								
			87		0.3								
			92		0.3								
			97		0.4								
			102		0.7								
			107		0.4								
			112		0.35								
			117		0.2								
			119		0.3								
			121		0								
			131		0								
Remarks:			136		0.3								
			139		0.3								
			142		0								

Log Sheet Totals: _____

Sheet Calculated Discharge: _____

Aqua Calc Discharge: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1710</u>	Site Location Description:	
Site Lat/Long: <u>#183 0737437/4269279</u>	<u>Riverles Paves T-19</u>	
Date & Time: <u>10/21/04 1520</u>	Facility Name:	
Personnel: <u>NM/CL</u>	Permit Number:	
Current Weather Conditions: <u>Cloudy</u>	Weather Conditions for Past 7 days:	
Photo Ids: Upstream: <u>105</u>	Downstream: <u>107</u>	Other: <u>104 & 106</u>

pic. #s - 9-12

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Pool	Width(ft) 80	Length(ft) 250	Ave. Depth(ft) 0.8	Max. Depth(ft) 1.2
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): 10	

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Pool	Width(ft) 60	Length(ft) 150	Ave. Depth(ft) 0.8	Max. Depth(ft) 1.2
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): 10	

Substrate*: (These values should add up to 100%)

80 %Cobble	20 %Gravel	— %Sand	— %Silt	— %Mud/Clay	— %Bedrock
------------	------------	---------	---------	-------------	------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

some benthic algae

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Cassidy Smith Date: 10/21/09

Organization: MEC Water Resources Position: Environmental Specialist

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD UAA

Date/Time: 10/21/04 1520

Site/Transect ID Number: 19

Start Time: 15:20

End Time: 15:35

Measured by: NM/CL

Air Temp: 55°F

Weather Cond: cloudy

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Stream Morphology At Transect

LDB Angle: _____

RDB Angle: _____

Secchi (ft) _____

Turbidity (NTU): _____

Channel Comp (%):

Cobble 80

Gravel 20

Sand _____

Silt _____

Other _____

Bank Composition Rock, Concrete

Riparian Corridor Density:

Width of Riparian Area: 50'

Composition of Riparian Vegetation: Trees, shrubs, forbs

General Observations: _____

Stream Discharge Measurements

Beginning Stage _____

Ending Stage: _____

Total Q: _____

Channel Width: _____

Total Area: _____

Average Velocity: _____

Distance from Datum to Water Surface: _____

Start: _____

End: _____

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

[illegible]

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1710</u>	Site Location Description: <u>(0738136/4269020)</u>
Site Lat/Long: <u>184 NM 183-0737937/4269279</u>	<u>T-20 River des Peres</u>
Date & Time: <u>10/21/04 15:40</u>	Facility Name:
Personnel: <u>NM/CL</u>	Permit Number:
Current Weather Conditions: <u>Cloudy</u>	Weather Conditions for Past 7 days: <u>Overcast</u>
Photo Ids: Upstream: <u>109</u> Downstream: <u>111</u> Other: <u>108 # 110 Banks</u>	

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input checked="" type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Survey Crew

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft) <u>60</u>	Length(ft) <u>200</u>	Ave. Depth(ft) <u>0.4</u>	Max. Depth(ft) <u>0.8</u>
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Flow	Present? <u>(Yes)</u>	No	Estimated (ft ³ /sec): <u>10</u>	

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft) <u>90</u>	Length(ft) <u>50</u>	Ave. Depth(ft) <u>0.3</u>	Max. Depth(ft) <u>0.7</u>
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Flow	Present? <u>(Yes)</u>	No	Estimated (ft ³ /sec): <u>10</u>	

Substrate*: (These values should add up to 100%)

<u>50</u> %Cobble	<u>50</u> %Gravel	%Sand	%Silt	%Mud/Clay	%Bedrock
-------------------	-------------------	-------	-------	-----------	----------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Some benthic Algae</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Cassidy Smith Date: 10/21/04

Organization: MEC WATER RESOURCES Position: ENVIRONMENTAL SPECIALIST

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD UAA

Date/Time: 10/21/04 1540

Site/Transect ID Number: T-20

Start Time: 1540

End Time: 1600

Measured by: NM/CL

Air Temp: 55°F

Weather Cond: cloudy

Stream Morphology Between Transects

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Stream Morphology At Transect

LDB Angle: _____

RDB Angle: _____

Secchi (ft) _____

Turbidity (NTU): _____

Channel Comp (%): Cobble 50 Gravel 50 Sand _____ Silt _____
Other _____

Bank Composition Concrete, Rock

Riparian Corridor Density: _____ Width of Riparian Area: 0
Composition of Riparian Vegetation: _____

General Observations: _____

Stream Discharge Measurements

Beginning Stage _____ Ending Stage: _____ Total Q: _____
Channel Width: _____ Total Area: _____ Average Velocity: _____
Distance from Datum to Water Surface: _____ Start: _____ End: _____

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

[illegible]

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1710</u>	Site Location Description:	
Site Lat/Long: <u>0738373/4268839</u>	<u>River Des Peres - 21</u>	
Date & Time: <u>10/21/04 16:05</u>	Facility Name:	
Personnel: <u>DM/LL</u>	Permit Number:	
Current Weather Conditions: <u>Cloudy</u>	Weather Conditions for Past 7 days: <u>Cloudy</u>	
Photo Ids: Upstream: <u>0113</u>	Downstream: <u>0115</u>	Other: <u>0112 & 0114 Banks</u>

Pics # 17-20

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Industrial</u>	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft) 110	Length(ft) 500	Ave. Depth(ft) 0.4	Max. Depth(ft) 0.9
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Flow	Present? Yes	No	Estimated (ft ³ /sec):	10

Downstream View Physical Dimensions:

<input checked="" type="checkbox"/> Riffle	Width(ft) 110	Length(ft) 500	Ave. Depth(ft) 0.4	Max. Depth(ft)
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input checked="" type="checkbox"/> Flow	Present? Yes	No	Estimated (ft ³ /sec):	10

Substrate*: (These values should add up to 100%)

80 %Cobble	20 %Gravel	— %Sand	— %Silt	— %Mud/Clay	— %Bedrock
------------	------------	---------	---------	-------------	------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Some benthic algae

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Cassidy Smithberg Date: 10/21/04

Organization: MEX WATER RESOURCES Position: ENVIRONMENTAL SPECIALIST

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD-VAA

Date/Time: 10/21/04 16:05

Site/Transect ID Number: T21

Start Time: 16:05

End Time: 16:20

Measured by: NM/CL

Air Temp: 60°F

Weather Cond: cloudy

Stream Morphology Between Transects

Point GPS - 185
DTC - 17-20

Length of Pools				Length of Run				Length of Riffles		
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Stream Morphology At Transect

LDB Angle: _____

RDB Angle: _____

Secchi (ft) _____

Turbidity (NTU): _____

Channel Comp (%):

Cobble 20

Gravel 80

Sand _____

Silt _____

Other _____

Bank Composition _____

Riparian Corridor Density: _____

Width of Riparian Area: _____

Composition of Riparian Vegetation: _____

General Observations: _____

Stream Discharge Measurements

Beginning Stage _____

Ending Stage: _____

Total Q: _____

Channel Width: _____

Total Area: _____

Average Velocity: _____

Distance from Datum to Water Surface: _____

Start: _____

End: _____

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #:

Stream Discharge Measurements													
Time	Station #	Angle Coefficient	Distance (from Initial Point-ft.)	Width	Depth (ft.)	Observation Depth	Revs.	Interval Time - in seconds	Velocity (f/s)		Adjusted for Hor. Angle	Section Area (ft. ²)	Section Discharge (cfs)
									At Point	Mean in Vertical			
	1 (EOW)		0			0	0	0	0	0			
			4		0.15								
			14		0.4								
			24		0.48								
			34		0.4								
			44		0.52								
			54		0.4								
			64		0.6								
			74		0.4								
			84		0.25								
			94		0.25								
			104		0.25								
			114		0.4								
			122		0.15								
			122.5		0								
<div> Log Sheet Totals: _____ </div> <div> Sheet Calculated Discharge: _____ </div> <div> Aqua Calc Discharge: _____ </div>													
Remarks:													

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1710</u>	Site Location Description:	
Site Lat/Long: <u>0738520 / 4268732</u>	<u>River Des Peres - 22</u>	
Date & Time: <u>10/21/24 16:20</u>	Facility Name:	
Personnel: <u>NM/CL</u>	Permit Number:	
Current Weather Conditions: <u>Cloudy</u>	Weather Conditions for Past 7 days: <u>Cloudy</u>	
Photo Ids: Upstream:	Downstream:	Other: <u>0116 - 0122</u>

Used Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin Diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV/ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Flow	Present?	Yes	No	Estimated (ft ³ /sec):

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Run	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Pool	Width(ft)	Length(ft)	Ave. Depth(ft)	Max. Depth(ft)
<input type="checkbox"/> Flow	Present?	Yes	No	Estimated (ft ³ /sec):

Substrate*: (These values should add up to 100%)

95 %Cobble	5 %Gravel	— %Sand	— %Silt	— %Mud/Clay	— %Bedrock
------------	-----------	---------	---------	-------------	------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Some benthic algae

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Color:	<input checked="" type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Surface Deposit:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input checked="" type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Cassidy Plunkhorne Date: 10/21/09

Organization: MEC WATER RESOURCES Position: ENVIRONMENTAL SPECIALIST

MEC Water Resources

Stream Morphology & Discharge Measurements

Project Name/Number: MSD - VAA

Date/Time: 10/21/24

Site/Transect ID Number: 22

Start Time: 1620

End Time: 1630

Measured by: NM/LL

Air Temp: 55°F

Weather Cond: Cloudy

Stream Morphology Between Transects

GPS - 186

Pools - 116 - 122

Length of Pools				Length of Run				Length of Riffles			
#	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	Start GPS #	End GPS #	ft.	End GPS #
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Stream Morphology At Transect

LDB Angle: _____

RDB Angle: _____

Secchi (ft) _____

Turbidity (NTU): _____

Channel Comp (%):

Cobble 75

Gravel 5

Sand _____

Silt _____

Other _____

Bank Composition Mud, Concrete, Rock

Riparian Corridor Density: _____

Width of Riparian Area: _____

Composition of Riparian Vegetation: _____

General Observations: End of Accessible Area - Train Bridge
- Drop off ~ 10' at bridge

Stream Discharge Measurements

Beginning Stage _____

Ending Stage: _____

Total Q: _____

Channel Width: _____

Total Area: _____

Average Velocity: _____

Distance from Datum to Water Surface: _____

Start: _____

End: _____

Meas. type: Price AA Pygmy

Data Coll. Type: Aqua Calc Sheet

Aqua Calc Transect #: _____

[illegible]

Appendix A River des Peres Site Photographs

Site #1. Upstream View



Site #1. Downstream View



Site #2. Upstream View



Site #2. Downstream View



Appendix A River des Peres Site Photographs

Site #3. Upstream View



Site #3. Downstream View



Site #4. Upstream View



Site #4. Downstream View



Appendix A River des Peres Site Photographs

Site #5. Right Descending Bank View



Site #5. Downstream View



Site #6. Left Descending Bank View



Site #6. Downstream View



Appendix A River des Peres Site Photographs

Site #7. Upstream View



Site #7. Right Descending Bank View



Site #8. Upstream View



Site #8. Right Descending Bank View



Appendix A River des Peres Site Photographs

Site #9. Upstream View



Site #9. Downstream View



Site #10. Upstream View



Site #10. Downstream View



Appendix A River des Peres Site Photographs

Site #11. Upstream View



Site #11. Downstream View



Site #12. Upstream View



Site #12. Downstream View



Appendix A River des Peres Site Photographs

Site #13. Left Descending Bank View



Site #13. Downstream View



Site #14. Upstream View



Site #14. Downstream View



Appendix A River des Peres Site Photographs

Site #15. Upstream View



Site #15. Downstream View



Site #16 - Photos Unavailable

Site #17. Upstream View

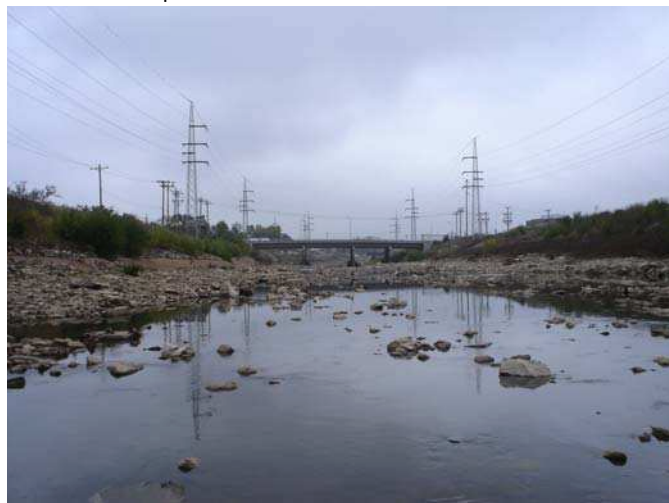


Site #17. Downstream View



Appendix A River des Peres Site Photographs

Site #18. Upstream View



Site #18. Downstream View



Site #19. Upstream View



Site #19. Downstream View



Appendix A River des Peres Site Photographs

Site #20. Upstream View



Site #20. Downstream View



Site #21. Upstream View



Site #21. Downstream View



Appendix A River des Peres Site Photographs

Site #22. Upstream View



Site #22. Downstream View



Whole Body Contact Recreation Use Attainability Analysis

Site #1	
Distance (ft.)	Depth (ft.)
0	0.00
1	0.20
2	0.20
4	0.30
6	0.35
8	0.40
10	0.40
12	0.40
14	0.50
16	0.60
18	0.50
20	0.32
22	0.32
24	0.23
26	0.23
28	0.00
49	0.00
50	0.40
51	1.95
53	1.95
55	2.05
57	1.10
58	0.00
81	0.00
82	0.30
86	1.00
90	1.06
100	1.00
110	0.62
120	0.70
128	0.70
128.1	0.00

Site #2	
Distance (ft.)	Depth (ft.)
0	0.00
0.5	0.55
4.5	0.70
8.5	0.75
12.5	0.80
16.5	1.05
20.5	1.10
24.5	0.90
28.5	0.60
30.5	0.30
31.5	0.00

Site #3	
Distance (ft.)	Depth (ft.)
0.0	0.00
1.0	0.05
5.0	0.20
9.0	0.71
13.0	0.75
17.0	0.80
21.0	0.80
25.0	0.72
29.0	0.38
31.0	0.15
31.5	0.00
118.5	0.00
120.5	0.20
124.5	0.30
128.5	0.46
132.5	0.58
136.5	0.58
140.5	0.47
141.5	0.45
142.5	0.20
143.0	0.00

Site #4	
Distance (ft.)	Depth (ft.)
0.0	0.00
1.0	0.72
5.0	0.70
9.0	0.60
13.0	0.40
17.0	0.23
21.0	0.23
25.0	0.10
28.0	0.05
29.0	0.00

Site #5	
Distance (ft.)	Depth (ft.)
0.0	0.00
4.0	0.00
8.0	0.00
12.0	0.00
16.0	0.20
20.0	0.70
24.0	0.80
28.0	0.80
32.0	0.60
36.0	1.00
40.0	0.60
44.0	0.20
45.0	0.00
124.0	0.00
128	0.60
132	0.60
136	0.40
140	0.30
144	0.20
147.3	0.00

Site #6	
Distance (ft.)	Depth (ft.)
0.0	0.20
4.0	0.60
8.0	0.80
12.0	0.80
16.0	0.80
20.0	0.85
24.0	0.70
28.0	0.65
32.0	0.65
36.0	0.30
36.8	0.00
114.4	0.00
118.4	0.03
122.4	0.03
126.4	0.40
130.4	0.30
134.4	0.30
138.4	0.35
142.4	0.30
146.4	0.15
147.7	0.00

Site #7	
Distance (ft.)	Depth (ft.)
0.0	0.00
4.0	0.40
8.0	0.40
12.0	0.60
16.0	0.80
20.0	1.00
24.0	0.80
28.0	0.10
29.2	0.00
143.2	0.00
147.2	0.10
151.2	0.20
152.0	0.00

Whole Body Contact Recreation Use Attainability Analysis

Site #8	
Distance (ft.)	Depth (ft.)
72.0	0.00
76.0	0.05
80.0	0.05
84.0	0.10
88.0	0.20
92.0	0.27
96.0	0.70
100.0	0.80
104.0	0.95
108.0	1.00
112.0	1.00
116.0	1.20
120.0	1.20
124.0	1.00
128.0	0.65
130.0	0.00
Site #9	
Distance (ft.)	Depth (ft.)
0.0	0.00
0.5	0.80
3.5	1.03
6.5	1.10
8.5	0.70
9.5	0.30
11.0	0.00
63.0	0.00
68.0	0.60
73.0	1.05
78.0	1.60
83.0	2.00
88.0	1.30
93.0	0.50
98.0	0.60
103.0	0.35
108	0.25
113	0.20
118	0.30
123	0.20
128	0.70
133	0.70
138	0.70
143	0.65
148	0.60
153	0.50
156	0.50
158	0.00
Site #10	
Distance (ft.)	Depth (ft.)
0.0	0.00
2.2	0.20
6.2	0.50
10.2	0.80
14.2	1.00
18.2	0.85
22.2	1.00
24.2	0.72
25.2	0.52
26.2	0.10
27.2	0.00
Site #11	
Distance (ft.)	Depth (ft.)
0.0	0.00
1.0	0.15
4.0	0.22
8.0	0.62
13.0	0.75
18.0	0.90
23.0	0.93
28.0	1.08
33.0	1.00
35.0	1.00
36.0	0.80
38.0	0.50
40.0	0.10
40.5	0.00
Site #12	
Distance (ft.)	Depth (ft.)
0.0	0.00
2.0	0.25
7.0	0.60
12.0	1.00
17.0	1.10
22.0	1.10
27.0	1.10
32.0	0.90
37.0	0.80
38.0	0.25
39.0	0.10
40.5	0.00
Site #13	
Distance (ft.)	Depth (ft.)
0.0	0.00
1.0	0.20
2.0	0.40
3.0	0.95
4.0	1.40
7.0	1.50
8.0	1.10
12.0	0.80
16.0	1.10
20.0	1.20
24.0	1.20
28.0	1.20
31.0	0.90
33.0	0.50
35	0.00
Site #14	
Distance (ft.)	Depth (ft.)
0.0	0.00
1.0	0.30
5.0	0.90
9.0	1.30
14.0	1.70
19.0	1.80
24.0	1.90
29.0	1.90
34.0	1.80
39.0	1.50
44.0	1.25
49.0	1.30
54.0	0.80
56.0	0.75
58	0.20
59	0.00

MEC Water Resources, Inc.

River des Peres

Whole Body Contact Recreation Use Attainability Analysis

Appendix B River des Peres Lateral Transects

Site #15		Site #16		Site #17		Site #18		Site #19		Site #20		Site #21	
Distance	Depth	Distance	Depth	Distance	Depth	Distance	Depth	Distance	Depth	Distance	Depth	Distance	Depth
(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)
0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.15
1.0	0.35	2.0	0.30	9.0	0.10	1.0	0.70	1.5	0.60	1.0	0.20	4.0	0.40
6.0	1.00	5.0	0.40	15.0	0.20	6.0	1.15	7.5	0.70	7.0	0.50	14.0	0.48
11.0	1.00	8.0	0.62	21.0	0.20	11.0	1.00	13.5	0.60	13.0	0.40	24.0	0.40
16.0	1.00	11.0	0.50	27.0	0.50	16.0	1.05	19.5	0.90	19.0	0.40	34.0	0.52
21.0	0.80	14.0	0.45	33.0	0.55	20.0	0.40	25.5	0.60	25.0	0.30	44.0	0.40
26.0	0.75	17.0	0.42	39.0	0.62	22.0	0.10	31.5	0.65	31.0	0.40	54.0	0.60
31.0	0.70	20.0	0.42	45.0	0.88	23.0	0.00	37.5	0.90	37.0	0.10	64.0	0.40
36.0	0.60	21.0	0.30	51.0	1.20	34.0	0.00	43.5	0.80	43.0	0.30	74.0	0.25
41.0	0.50	23.0	0.00	57.0	1.00	35.0	0.20	49.5	0.60	49.0	0.50	84.0	0.25
46.0	0.20			63.0	1.10	37.0	0.23	55.5	0.90	55.0	0.40	94.0	0.25
51.0	0.20			69.0	1.35	39.0	0.20	61.5	0.70	61.0	0.80	104.0	0.40
56.0	0.10			75.0	1.15	40.0	0.00	67.5	0.70	67.0	0.40	114.0	0.40
60.0	0.00			81.0	0.85	46.0	0.00	69.5	0.60	73.0	0.60	122.0	0.15
				87	0.50	47	0.40	71	0.00	79	0.40	122.5	0.00
				92	0.50	52	0.60			85	0.50		
				93	0.30	57	0.65			91	0.50		
				95	0.00	62	0.50			96	0.20		
						67	0.50			99	0.00		
						72	0.50						
						77	0.20						
						82	0.30						
						87	0.30						
						92	0.30						
						97	0.40						
						102	0.70						
						107	0.40						
						112	0.35						
						117	0.20						
						119	0.30						
						121	0.00						

MEC Water Resources, Inc.

River des Peres

Whole Body Contact Recreation Use Attainability Analysis

Appendix C River des Peres Water Quality Data

USGS Water Quality Data Collected at USGS 07010022 River des Peres near University City
(38°40'5.72", -90°19'25.33" NAD 83)

Date/Time	Streamflow	Specific Conductivity	Fecal Coliform	<i>E. coli</i>	Condition	Recreation Season
(M/D/Y 24:00)	(cfs)	(uS/cm)	(col./100 mL)	(col./100 mL)	(Baseflow, Runoff)	(Yes, No)
8/19/97 13:48	75.0	219	150,000	100,000	Runoff	Yes
8/26/97 15:35	0.0	1,040	30,000	100,000	Baseflow	Yes
12/16/97 8:35	-----	1330	25000	21000	-----	No
2/24/98 14:30	0.05	1110	100	150	Baseflow	No
4/3/98 9:08	-----	263	92000	60000	-----	Yes
6/22/98 14:45	0.84	705	2400	1700	Baseflow	Yes
12/1/98 8:35	0.47	543	3100	8000	Baseflow	No
2/11/99 10:10	0.68	1320	4800	2400	Baseflow	No
2/11/99 15:16	333	323	60000	36000	Runoff	No
5/12/99 16:09	76	159	940000	510000	Runoff	Yes
6/17/99 8:50	0.11	1020	4000	1400	Baseflow	Yes
8/3/99 8:28	0.01	870	21000	2000	Baseflow	Yes
1/6/00 7:40	0.03	535	680	350	Baseflow	No
2/18/00 1:33	964	235	35000	28000	Runoff	No
2/29/00 7:56	0.06	595	350	180	Baseflow	No
5/7/00 1:21	229	343	48000	36000	Runoff	Yes
6/15/00 8:15	0.06	429	4000	1800	Baseflow	Yes
8/1/00 10:15	0.35	659	5000	3200	Baseflow	Yes
12/19/00 9:20	0.35	4410	1300	1900	Baseflow	No
2/27/01 8:20	0.81	101	4400	1700	Baseflow	No
3/15/01 20:02	190	545	6300	3500	Runoff	No
4/9/01 23:32	288	451	26000	78000	Runoff	Yes
5/29/01 13:10	0.09	706	23000	1200	Baseflow	Yes
8/27/01 11:30	0.01	887	-----	-----	Baseflow	Yes
10/24/01 13:22	593	73	120000	200000	Runoff	Yes
12/11/01 13:50	0.07	1000	500	47	Baseflow	No
2/4/02 10:48	1.3	1600	6600	1600	Baseflow	No
3/9/02 2:17	157	2100	56000	9500	Runoff	No
3/25/02 3:00	717	214	-----	-----	Runoff	No
5/30/02 9:55	0.81	780	13000	7000	Baseflow	Yes
8/8/02 14:40	0.06	627	920	120	Baseflow	Yes
10/29/02 1:56	15	369	32000	39000	Runoff	Yes
12/17/02 14:10	0.22	3360	23	4	Baseflow	No
2/4/03 15:00	0.71	2680	760	220	Baseflow	No
3/19/03 8:52	161	565	22000	16000	Runoff	No
6/9/03 11:30	0.3	1010	880	440	Baseflow	Yes
8/12/03 12:45	0.06	847	780	520	Baseflow	Yes
10/9/03 13:37	691	127	6000	2000	Runoff	Yes
12/17/03 8:35	0.91	3600	11000	2400	Baseflow	No
2/18/04 8:45	0.22	1990	1200	1600	Baseflow	No
3/3/04 20:21	65	1400	140000	41000	Runoff	No
5/18/04 9:30	0.16	1140	1900	6200	Baseflow	Yes
8/3/04 10:15	0.01	930	5000	4000	Baseflow	Yes

MEC Water Resources, Inc.

River des Peres

Whole Body Contact Recreation Use Attainability Analysis

Appendix C River des Peres Water Quality Data

USGS Water Quality Data Collected at USGS 07010097 River des Peres at St.Louis
(38°33'33.89", -90°16'59.52" NAD 83)

Date & Time	Streamflow	Specific Conductivity	Fecal Coliform	<i>E. coli</i>	Condition	Recreation Season
(M/D/Y 24:00)	(cfs)	(uS/cm)	(col./100 mL)	(col./100 mL)	(Baseflow, Runoff)	(Yes, No)
10/29/02 3:00	314	1,450	24,000	39,000	Runoff	Yes
12/17/02 11:00	2.4	1920	40	4	Baseflow	No
2/3/03 10:45	3.2	2030	20	23	Baseflow	No
3/19/03 11:09	752	744	74000	25000	Runoff	No
6/9/03 15:50	2.4	769	520	240	Baseflow	Yes
8/11/03 13:15	0.32	647	470	270	Baseflow	Yes
10/9/03 14:55	2840	275	84000	63000	Runoff	Yes
12/4/03 10:20	10	1060	710	830	Baseflow	No
2/18/04 8:50	7.4	1550	77	52	Baseflow	No
3/4/04 11:00	1010	623	190000	29000	Runoff	No
5/17/04 12:00	6.2	932	92	42	Baseflow	Yes
8/3/04 15:45	10	627	420	88	Baseflow	Yes

MEC Water Resources, Inc.

River des Peres

Whole Body Contact Recreation Use Attainability Analysis

Appendix D

River des Peres Recreational Use Attainability Interview Forms

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Trent Stober Interviewed by: By Person By Phone

Date 4/23/05 Time _____

Reason for the interviewee selection Founder of River des Peres Headwater Coalition

Location: River Des Peres Maline Creek

Description (GPS optional) _____

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Shelle Michelle Welsch

Current Address 8025 Blackberry Ave., University City, Mo 63130

Current Phone # _____

Occupation Executive Dir. of Green Center

Age 52

PERSONAL USE

How long have you lived near this body of water? 45 - Not continuous

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		

Other Clean Ups, walk along, ice skated (did not freeze flat - Deer Creek in Rock Hill)

If NO, reasons why Re-engineered so that there is not enough water for swimming, CSO & water quality issues,
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other Views that the WPCR uses are very limited.

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other Observed children playing within river @ Hemen Park, clean ups			

If NO, reasons why Same as personal use
 (General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
 Other _____

ANECDOTAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	1**		
Kayaking	1*		Unknown
Tubing	0		
Rafting	0		
Boating	1*		Unknown
Water Skiing	0		

Other ** Barry Kozloff - Used to ^{rope} swing into RdP when child - Prior to hydrologic modifications?
 314 725-9308 Home Boy Scouts - Clean Ups for Eagle Scout bridges Monsterveres?
 568-6900 Biz

If NO, reasons why _____
 (General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
 Other * Met individual that used Deer Creek for kayaking or canoeing in
 Deer Creek west of Galeria to Maplewood.

Signature of Assessor LT LHE

Signature of Interviewee _____

Date 2/23/05

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Trent Stober Interviewed by: By Person By Phone

Date 3/16/05 Time 14:20

Reason for the interviewee selection Co-Chair of RdP Watershed Coalition

Location: River Des Peres Maline Creek

Description (GPS optional) _____

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Donald Bruce Jeffries

Current Address 4976 Itaska St. St. Louis, MO 63109

Current Phone # 314-832-9415

Occupation Social Work Consultant

Age _____

PERSONAL USE - Characterize the personal use of the water by the surveyed individual

How long have you lived near this body of water? _____

Do you or your family utilize River Des Peres and Maline Creek for water activities? **YES** or **NO**

If **YES**, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other <u>Stream Clean Ups</u>			

If **NO**, reasons why Water quality and lack of depth. Mr. Jeffries believes that
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other RdP would be used and he would use the river if water quality and flow conditions were resolved.

WITNESSED USE - Characterize the observed use of the water by the surveyed individual

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	Children playing in streams within University City		

If NO, reasons why Same as above
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

ANECTODAL USE- Characterize the anecdotal use of the water heard by the surveyed individual

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	2	Likely summer	Likely low flow
Water Skiing	0		
Other	Families with children playing in river.		

If NO, reasons why Same as above
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

Signature of Assessor JF SH

Signature of Interviewed Individual _____

Date 3/16/05

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Baffie Bacott Trent Stoker

Interviewed by:

By Person

By Phone

Date 2/16/05

Time _____

Reason for the interviewee selection _____

Location: River Des Peres Maline Creek

Description (GPS optional) _____

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Elizabeth Bacott

Current Address _____

Current Phone # 314-453-9555

Occupation Resource Conservationist - St. Louis Co SWCD

Age _____

PERSONAL USE

How long have you lived near this body of water? NA - Stream Team Volunteer 3yrs.

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		

Other Water quality sampling - Southwest Branch, trash clean up - Sw Branch & other Rd P. trips.

If NO, reasons why Water quality & does not live in close proximity - Dangerous -
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity) flash flooding, steep slopes, fencing

Other _____

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0*		
Water Skiing	0		
Other -			

If NO, reasons why Not at stream often

(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other Evidence by pathways, footprints, graffiti in lower RdP (2.5 miles)

* Picture of canoeist on lower RdP

ANECDOTAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	1*		
Water Skiing	0		
Other	<u>Picture of 3 ladies relaxing on RdP banks in 1915.</u>		

If NO, reasons why Kids in RdP at Hemen Park biking. Email from someone reporting observing children @ Hemen Park - Wading, biking, none swimming. - Karen Mittal

(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other * Same as above

Spence - Laura Newman Howell.

Signature of Assessor

[Signature]

Signature of Interviewee

Date

2/16/05

RECREATIONAL USE SURVEY FORM
Missouri River and Mississippi River

The purpose of this survey is to aid in identifying current recreational uses of the Missouri River and Mississippi River.

Assessor Trent Stuber Interviewed by: By Person By Phone
Date 4/4/05 Time 14:30
Reason for the interviewee selection River des Peres Watershed Coalition
Location: Missouri River Mississippi River
Description (GPS optional) _____

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Frederick Blanton
Current Address 7131 Sutherland, St. Louis, MO
Current Phone # 314-267-2829
Occupation Financial Analyst
Age 42

PERSONAL USE - Characterize the personal use of the water by the surveyed individual

How long have you lived near this body of water? March 2001
Do you or your family utilize River des Peres Missouri River and Mississippi River for water activities? YES or NO
If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other			

If NO, reasons why Lack of water, unsafe due to stream velocity, poor water quality
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity) water is not accessible during most periods, due to engineered structure
Other _____

WITNESSED USE - Characterize the observed use of the water by the surveyed individual

<u>ACTIVITIES</u>	<u>NUMBER OF TIMES/PER PERIOD</u>	<u>SEASON</u>	<u>FLOW CONDITION</u>
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other			

If NO, reasons why _____
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

ANECTODAL USE- Characterize the anectodal use of the water heard by the surveyed individual

<u>ACTIVITIES</u>	<u>NUMBER OF TIMES/PER PERIOD</u>	<u>SEASON</u>	<u>FLOW CONDITION</u>
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other			

If NO, reasons why Most people state that conditions are not safe.
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

Signature of Assessor 

Signature of Interviewed Individual _____

Date 4/4/05

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Rence Markin Interviewed by: By Person By Phone

Date 1/10/05 Time 9:25 AM

Reason for the interviewee selection Stream gauging stations on Rivers/creek

Location: River Des Peres Maline Creek

Description (GPS optional) Bellefontaine, Perdue, Magan Ford.

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Larry Buschmann
Current Address W. Res. Field Office Polla - USGS
Current Phone # 573-308-3683
Occupation Hydrologic Tech
Age 28

PERSONAL USE

How long have you lived near this body of water? —

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	—	—	—
Kayaking	—	—	—
Tubing	—	—	—
Rafting	—	—	—
Boating	—	—	—
Water Skiing	—	—	—
Other	—	—	—

If NO, reasons why Safety, WQ
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other Work on River & Creek.

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	—	—	—
Kayaking	—	—	—
Tubing	—	—	—
Rafting	—	—	—
Boating	—	—	—
Water Skiing	—	—	—
Other	<i>Drug Dealing</i>		<i>Low</i>

If NO, reasons why

Safety
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other

ANECDOTAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	—	—	—
Kayaking	—	—	—
Tubing	—	—	—
Rafting	—	—	—
Boating	—	—	—
Water Skiing	—	—	—
Other	—	—	—

If NO, reasons why

WQ, Safety
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other

Signature of Assessor

Glenn Mart

Signature of Interviewee

Date

1/10/05

*Bellefontaine
Purdue
Morgan Ford*

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Nat Muenks Interviewed by: By Person By Phone

Date 10-20-04 Time 10:25 a.m.

Reason for the interviewee selection Walking in Wilmore Park - borders stream

Location: River Des Peres Maline Creek

Description (GPS optional) _____

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Carl Glad
Current Address 7610 Suffolk 63119
Current Phone # (314) 997-7002
Occupation Teacher - High School
Age 37

PERSONAL USE

How long have you lived near this body of water? 20 years

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other <u>N/A</u>			

If NO, reasons why Dirty Water Quality
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other _____

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why Water Quality
 (General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
 Other _____

ANECDOTAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why Water Quality
 (General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
 Other School teacher - never heard of children using stream for recreation of this type

Signature of Assessor [Signature]

Signature of Interviewee [Signature]

Date 10-20-04

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Nate Muenks Interviewed by: By Person By Phone

Date 10-20-04 Time 10:40

Reason for the interviewee selection In park along stream

Location: River Des Peres Maline Creek

Description (GPS optional) _____

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Refused - older gentleman with

Current Address wife, walking in Wilmae

Current Phone # Park

Occupation _____

Age _____

PERSONAL USE

How long have you lived near this body of water? 50 years

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	<u>0</u>		
Kayaking	<u>0</u>		
Tubing	<u>0</u>		
Rafting	<u>0</u>		
Boating	<u>0</u>		
Water Skiing	<u>0</u>		
Other	<u>0</u>		

If NO, reasons why N/A
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other _____

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why N/A
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

ANECDOTAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why N/A
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

Signature of Assessor [Signature]

Signature of Interviewee Refused

Date 10-20-01

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Nate Meeks Interviewed by: By Person By Phone

Date 10-20-04 Time 11:20 a.m.

Reason for the interviewee selection Works along stream (for 28 yrs)

Location: River Des Peres Maline Creek

Description (GPS optional) Salvation Army (Youth & Family Center) on Weber Street - to west of stream

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Connie Reker

Current Address 3601 Weber Rd

Current Phone # 314-631-0727

Occupation Community Center Director - Salvation Army

Age _____

PERSONAL USE

How long have you lived near this body of water? Worked here for 28 yrs

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why Water Quality
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other _____

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	One Or more ^{or} days	Summer	Med - High
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why

(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other Over 10 yrs age witnessed this swimming

ANECDOTAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why

(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other

Signature of Assessor

Signature of Interviewee

Date

10/20/04

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Nate Meeks Interviewed by: By Person By Phone

Date 10-20-04 Time 11:35 a.m.

Reason for the interviewee selection Works ~~along~~ near stream

Location: River Des Peres Maline Creek

Description (GPS optional) Salvation Army - Youth & Family Center
to west of stream - clear view of stream

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Doris Miller

Current Address 3601 Weber Road

Current Phone # (314) 631-1133

Occupation Office Manager

Age

PERSONAL USE

How long have you lived near this body of water? 31 yrs

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	<u>0</u>		
Kayaking	<u>0</u>		
Tubing	<u>0</u>		
Rafting	<u>0</u>		
Boating	<u>0</u>		
Water Skiing	<u>0</u>		
Other	<u>0</u>		

If NO, reasons why Water Quality - lack of depth
(General Aesthetics, Water Quality Lack of Depth, Weather, Safety, Velocity)

Other

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why

N/A
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other _____

ANECTODAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why

N/A
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other _____

Signature of Assessor

Signature of Interviewee

Date

10/20/04

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Mike Mackley Interviewed by: By Person By Phone

Date 10-20-04 Time 12:00 p.m.

Reason for the interviewee selection Live on Weber Road along stream

Location: River Des Peres Maline Creek

Description (GPS optional) Live to west of stream - clear view of stream

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name James & Mary Senseney

Current Address 906 Weber Road

Current Phone # (314) 631-0096

Occupation Retired (both)

Age 60's

PERSONAL USE

How long have you lived near this body of water? 34 yrs 60 or more yrs in area

Do you or your family utilize River Des Peres and Maline Creek for water activities? **YES** or **NO**

If **YES**, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	<u>photographs & walks area, sight seeing purposes</u>		

If **NO**, reasons why Water Quality, Lack of depth, Aesthetics
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other "Should plant flowers or wildlife friendly plants along it"

WITNESSED USE

SEE NOTE BELOW 5/2/05

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	Some - several times	Summer	low low-mid
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	Seen someone skiing gear with		

If NO, reasons why _____
 (General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
 Other _____

ANECTODAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why N/A
 (General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
 Other _____

Signature of Assessor [Signature]

Signature of Interviewee James Senseney

Date 10-20-04

Follow-Up Phone Conversation - 5/2/05 - Mary Senseney by Trent Stober
 Swimming uses that were observed were very infrequent. These were during times that water depths were adequate for swimming, which is not typical. Mary stated that these were typically children or youths and could not recall the approximate number of times that she has observed these uses.
 Assessor: Trent Stober
 Date: May 2, 2005

RECREATIONAL USE SURVEY FORM

River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Nate Muenks Interviewed by: By Person By Phone

Date 10-20-04 Time 1:00 p.m.

Reason for the interviewee selection patrol area around River Des Peres

Location: River Des Peres Maline Creek

Description (GPS optional) at Walgreens parking lot to East of stream

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Unknown → St Louis City Police Office

Current Address _____

Current Phone # _____

Occupation Police officer

Age _____

PERSONAL USE

How long have you lived near this body of water? _____

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	NO ↓		
Kayaking			
Tubing			
Rafting			
Boating			
Water Skiing			
Other			

If NO, reasons why _____
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other _____

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	NO ↓		
Kayaking			
Tubing			
Rafting			
Boating			
Water Skiing			
Other	Never seen anyone in River		

If **NO**, reasons why _____
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

ANECDOTAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	No ↓		
Kayaking			
Tubing			
Rafting			
Boating			
Water Skiing			
Other			

If **NO**, reasons why _____
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

Signature of Assessor _____

Signature of Interviewee Refused

Date _____

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Nate Marks Interviewed by: By Person By Phone

Date 10-20-04 Time 4:20 p.m.

Reason for the interviewee selection Works at Goodwill on Morgan Ford Rd

Location: River Des Peres Maline Creek

Description (GPS optional) Goodwill at Morgan Ford Road to west of stream

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Mary Blake

Current Address 7800 Morgan Ford Rd

Current Phone # (314) 631-1463

Occupation Asst Manager

Age 40's

PERSONAL USE

How long have you lived near this body of water? 1 year worked here STL entire life

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why Water Quality, General Aesthetics
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other _____

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why N/A
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

ANECDOTAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why N/A
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

Signature of Assessor

Signature of Interviewee

Date

10-20-08

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Kate Muenks Interviewed by: By Person By Phone

Date 10-20-04 Time 4:45 p.m.

Reason for the interviewee selection Lives on Street paralleling River

Location: River Des Peres Maline Creek

Description (GPS optional) Primm Street, to west of stream

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Charlene Wozniak

Current Address 3828 Primm Street

Current Phone # N/A

Occupation House wife

Age _____

PERSONAL USE

How long have you lived near this body of water? 18 yrs.

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why Water Quality, Depth
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other 4 boys, but none it

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why _____
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

ANECDOTAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0 0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	Kids fishin - 18 years ago		

If NO, reasons why _____
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

Signature of Assessor _____

Signature of Interviewee _____

Date _____

10-20-04

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Nate Munks Interviewed by: By Person By Phone

Date 10-20-04 Time 4:55 p.m.

Reason for the interviewee selection Lives on Street adjacent to River

Location: River Des Peres Maline Creek

Description (GPS optional) to west of stream, ~~adjacent to stream~~

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Nancy Ferrell
Current Address 3804 Prim
Current Phone # (314) 638-9374
Occupation Retired
Age 60

PERSONAL USE

How long have you lived near this body of water? 25 yrs

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why Water Quality
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other _____

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why N/A
 (General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
 Other _____

ANECDOTAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	1 Row boat	Summer '93	'93 flooded
Water Skiing	0		
Other	1 Guy in Rowboat in '93 flood		

If NO, reasons why N/A
 (General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
 Other _____

Signature of Assessor _____

Signature of Interviewee _____

Date _____

10-20-04

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Nat Marks Interviewed by: By Person By Phone

Date 10-20-04 Time 5:15 p.m.

Reason for the interviewee selection Lives along River - has view of River

Location: River Des Peres Maline Creek

Description (GPS optional) to East of stream, can see stream clearly

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name James McKern

Current Address 3849 Germania Street

Current Phone # (314) 752-8536

Occupation Retired

Age 62

PERSONAL USE

How long have you lived near this body of water? 37 yrs

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	<u>0</u>		
Kayaking	<u>0</u>		
Tubing	<u>0</u>		
Rafting	<u>0</u>		
Boating	<u>0</u>		
Water Skiing	<u>0</u>		
Other	<u>0</u>		

If NO, reasons why Water Quality, Safety on Banks
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other _____

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	1 - 70's flood(73)	Spring	flooded
Other	motorized boat		

If NO, reasons why _____
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

ANECTODAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why N/A
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

Signature of Assessor

Signature of Interviewee

Date

10-20-04

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Rafe Menks Interviewed by: By Person By Phone

Date 10-20-04 Time 5:25 p.m.

Reason for the interviewee selection Lives adjacent to stream

Location: River Des Peres Maline Creek

Description (GPS optional) to East of stream - can see stream clearly

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Ralph Gash

Current Address 3853 Germanic

Current Phone # (314) 351-3796

Occupation Retired

Age 74

PERSONAL USE

How long have you lived near this body of water? 35 yrs

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why 1

(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other "Environmentally unsafe"

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming			
Kayaking			
Tubing			
Rafting			
Boating	2 on boats (flooded) 73 ⁹³	Spring/summer	flooded
Water Skiing	1 in 73		flooded
Other Fishing			

If NO, reasons why _____
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

ANECDOTAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why _____
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

Signature of Assessor

Signature of Interviewee

Date

10-20-04

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Nate Mink Interviewed by: ☒ By Person ☐ By Phone

Date 10-20-04 Time 6:00 p.m.

Reason for the interviewee selection Live adjacent

Location: ☒ River Des Peres ☐ Maline Creek

Description (GPS optional) to East of stream - can see stream clearly

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Art Schaffer - 2 kids (each)

Current Address 4041 Germania

Current Phone # 314 752 5501

Occupation Rental Manager

Age 54

PERSONAL USE

How long have you lived near this body of water? 20 yrs

Do you or your family utilize River Des Peres and Maline Creek for water activities? ☐ YES or ☒ NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If NO, reasons why Safety, Water Quality
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other _____

Suggestion - maintain higher level, flow - for beautification

WITNESSED USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	4-wheelin', 4x4 vehicles		low flow

If **NO**, reasons why _____
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

ANECTODAL USE

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other	0		

If **NO**, reasons why N/A
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

Signature of Assessor

Janet Schaffer

Signature of Interviewee

Date

10-20-01

RECREATIONAL USE SURVEY FORM
River Des Peres and Maline Creek

The purpose of this survey is to aid in identifying current recreational uses of the River Des Peres and Maline Creek.

Assessor Cassidy Luebbeling Interviewed by: By Person By Phone

Date 10/21/09 Time 13:55

Reason for the interviewee selection in stream

Location: River Des Peres Maline Creek

Description (GPS optional) Downstream section of RDP, approximately 300 yds. from MS river.

- UNSUPERVISED CHILDREN SHALL NOT BE INTERVIEWED -

CONTACT INFORMATION

Legal Name Matt Bettorf Ronnie Lowe

Current Address _____

Current Phone # 314 534-1030

Occupation David Mason Assoc. - surveyors

Age _____

PERSONAL USE

How long have you lived near this body of water? _____

Do you or your family utilize River Des Peres and Maline Creek for water activities? YES or NO

If YES, please check the activities and approximate number of time and the season you did.

ACTIVITIES	NUMBER OF TIMES/PER PERIOD	SEASON	FLOW CONDITION
Swimming	<u>0</u>		
Kayaking	<u>0</u>		
Tubing	<u>0</u>		
Rafting	<u>0</u>		
Boating	<u>0</u>		
Water Skiing			
Other <u>Surveying</u>			

If NO, reasons why all
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)

Other _____

WITNESSED USE

<u>ACTIVITIES</u>	<u>NUMBER OF TIMES/PER PERIOD</u>	<u>SEASON</u>	<u>FLOW CONDITION</u>
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other			

If **NO**, reasons why all
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

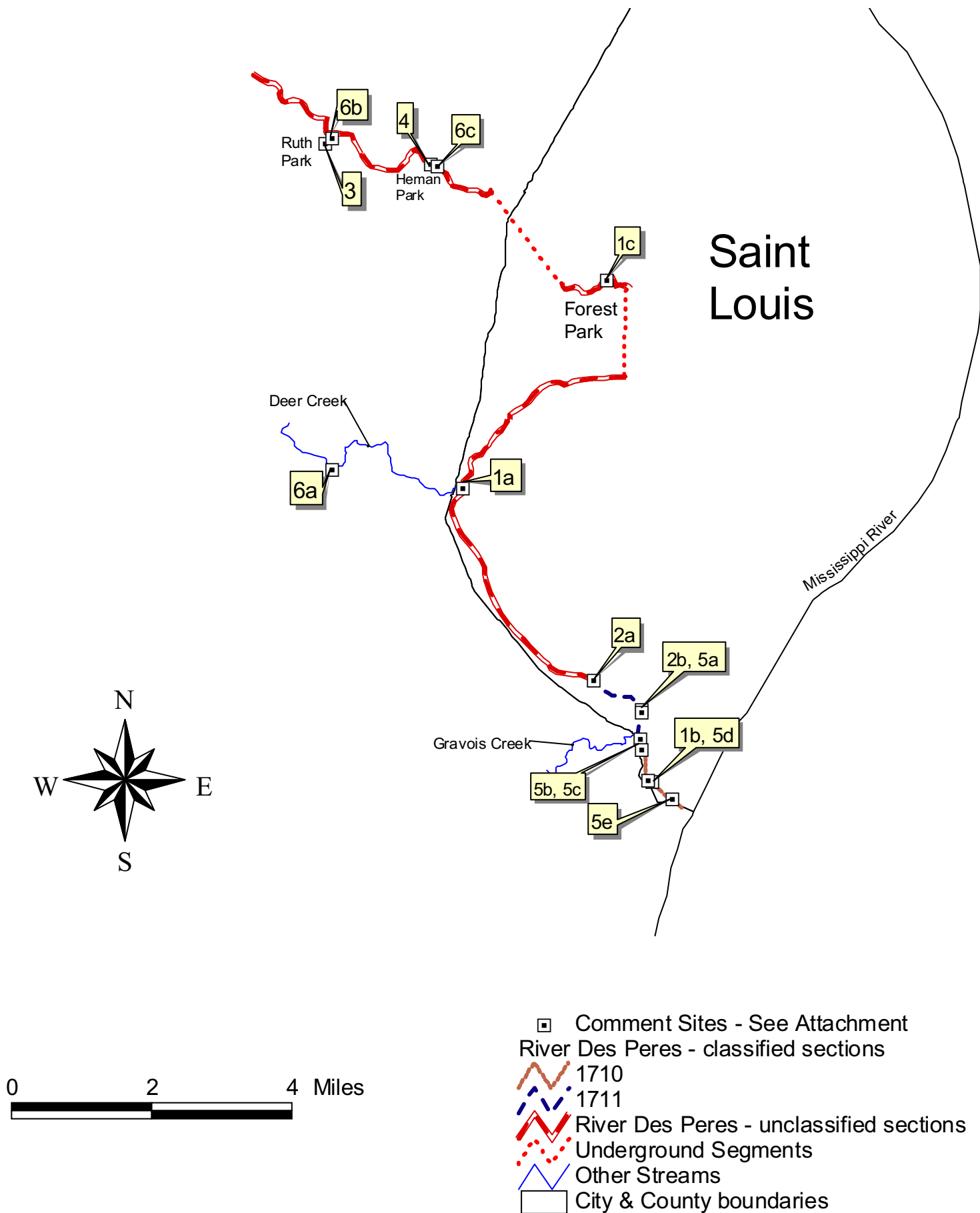
ANECTODAL USE

<u>ACTIVITIES</u>	<u>NUMBER OF TIMES/PER PERIOD</u>	<u>SEASON</u>	<u>FLOW CONDITION</u>
Swimming	0		
Kayaking	0		
Tubing	0		
Rafting	0		
Boating	0		
Water Skiing	0		
Other			

If **NO**, reasons why all
(General Aesthetics, Water Quality, Lack of Depth, Weather, Safety, Velocity)
Other _____

Signature of Assessor [Signature]
Signature of Interviewee Matt Bette
Date 10/21/00

River des Peres / Whole Body Contact Issue:
 Sites specifically identified in comment letters
 following the 9/7/05 Clean Water Commission Meeting



		COMMENTS CITED ON 12/16/05 MAP entitled, "River des Peres/ Whole Body Contact Recreation Issue"
Site	Name	Comment
1	John Gory	a&b) I have canoed in River des Peres from the confluence of Deer Creek to past South Broadway--right before the locks area (concrete gates that go to the Mississippi River). a) I swam at the Deer Creek/River des Peres confluence about every other day as a child in the 1970's and early 1980's. c.) I took an accidental swim in River des Peres in Forest Park about 5 to 8 years ago.
2	Joe Light	a) I paddled in the River des Peres in July 2000. The trip took place between Morganford Ave and Interstate 55. (He provided a picture of himself in the river.) When canoeing a river, you come in full contact with the water of the river. If the River des Peres was cleaner, I would paddle it more often. b) The City of St. Louis has built a network of paved pedestrian walkways along the river, which will increase people's exposure.
3	Leslie Lihou	I have been wading in the headwaters of the River des Peres performing water quality monitoring, mapping the stream, and removing honeysuckle from the streambank of Ruth Park woods in University City. We are preparing the woods to be an outdoor education ecosystem for the Green Center. During our activities water splashed occasionally into our faces and people stumbled in the water. Adults and children probably will access and contact the stream in the future. Therefore the stream meets criteria for "whole body contact".
4	Laura Newman-Howe	She lives near Heman Park in University City, which she has seen kids playing in the water of the River des Peres where the banks are steep numerous times. She has also seen kids wading at the low water pass that is between the tennis courts and central ball fields (east of pool) in the center of Heman Park. See letter for more details.
5	Dan Sherburne	The letter provides evidence showing that the depth criteria are satisfied at several points along the River des Peres. Measurements were taken on October 29, 2005, following a week without any rain. The month had had a total of 0.25" precipitation to date. a) I-55 bridge to Union Pacific RR bridge – depth measurements from 0.5-0.7 meters; b) RR bridge to Lemay Ferry Rd/ Alabama Ave bridge – max depth greater than 1.05 meter; c) just south of Lemay Ferry – 0.5-0.7 meters; d) just north of Broadway bridge – 0.5-0.8 meter; e) at lowest 200 meters, river has larger flow that clearly meets criterion. Fisherman with dog noted on south bank on October 28, 2005. Photos provided. See letter for additional details and actual measurements taken.
6	David Wilson	a) He and his wife visit Deer Creek behind the bi-state bus depot at Brentwood and Marshall, which has a hole where swimming probably occurred many years ago. b & c) Trails go down to the creek on the SE side. In University City, they have hike from Ruth Park to Heman Park and waded in the River des Peres. His kids have also waded and splashed in Courtois Creek in Crawford County.

Public Comments Received on River des Peres #1710-1711 in St. Louis City

First Name	Last Name	WB Name	WBID #	Summary of Comments	Date Rec'd	Date Postmarked
Diane	Albright	River des Peres	1710 & 1711	She requests that the September 7, 2005, decision be reconsidered. The new state water quality rules apply to these three water bodies, too. It is a matter of public health.	01-Dec-05	25-Dec-05
John	Gorry	River des Peres	1710 & 1711	I have canoed in River des Peres from the confluence of Deer Creek to past South Broadway--right before the locks area (concrete gates that go to the Mississippi River). I swam at the Deer Creek/River des Peres confluence about every other day as a child in the 1970's and early 1980's. I took an accidental swim in River des Peres in Forest Park about 5 to 8 years ago.	27-Oct-05	Phone call
Dr. Heinrich	Heissinger	River des Peres	1710 & 1711	We should clean up our rivers, like the Rhine River in Europe, and keep them clean. Sooner or later we will be forced to do so anyhow out of concern for the health of our population. The longer we wait, the more difficult and costly it will be.	29-Oct-05	e-mail
Joe	Light	River des Peres	1710 & 1711	I paddled in the River des Peres in July 2000. The trip took place between Morganford Ave and Interstate 55. (He provided a picture of himself in the river.) When canoeing a river, you come in full contact with the water of the river. If the River des Peres was cleaner, I would paddle it more often. The City of St. Louis has built a network of paved pedestrian walkways along the river, which will increase people's exposure.	20-Sep-05; 07-Nov-05	e-mail; 05-Nov-05
Leslie	Lihou	River des Peres	1710 & 1711	I have been wading in the headwaters of the River des Peres performing water quality monitoring, mapping the stream, and removing honeysuckle from the streambank of Ruth Park woods in University City. We are preparing the woods to be an outdoor education ecosystem for the Green Center. During our activities water splashed occasionally into our faces and people stumbled in the water. Adults and children probably will access and contact the stream in the future. Therefore the stream meets criteria for "whole body contact".	16-Sep-05	e-mail
John	Lodderhose	River des Peres	1710 & 1711	The interviews reported in the UAA were misrepresented. Very few interviewed individuals reported observing any recreational uses within the classified stream segments. These observations were very infrequent, separated by many years. MSD requests the removal of WBC use due the lack of existing WBC uses and presence of low flow conditions that prevent WBC use attainment. See letter for more details.	23-Aug-05	N/A

Public Comments Received on River des Peres #1710-1711 in St. Louis City

First Name	Last Name	WB Name	WBID #	Summary of Comments	Date Rec'd	Date Postmarked
Julie	Marino	River des Peres	1710 & 1711	We are Citizens Against River Exemption (CARE), a group of Missourians that fights for the sanitation of our rivers. We are troubled by the decision of the Clean Water Commission to exempt one hundred forty-two rivers from the new water quality rules. Incorporating all rivers under the Clean Water Act's updated water quality rules will prevent civilians from experiencing preventable illnesses.	21-Nov-05	19-Nov-05
John	Meyer, M.D.	River des Peres	1710 & 1711	Favors maintaining the highest water standards for all our rivers, creeks, and watersheds. The Mississippi River, River des Peres, Maline Creek and Coon Creek are most important to maintain for recreation because they are close to major population centers.	27-Nov-05	e-mail
Laura	Neuman-Howe	River des Peres	1712 & 1711	She lives near Heman Park in University City, which she has seen kids playing in the water of the River des Peres where the banks are steep numerous times. She has also seen kids wading at the low water pass that is between the tennis courts and central ball fields (east of pool) in the center of Heman Park. See letter for more details.	23-Nov-05	21-Nov-05
Nathan	Pate	River des Peres	1710 & 1711	River des Peres runs through suburban/urban areas where many children live. I also know that children will play in any water body accessible on foot. This stream needs to be safe for them to play in.	30-Oct-05	e-mail
William	Reeves	River des Peres	1711 & 1711	Nothing in the UAA or the report on the Commission's findings demonstrates that the hydrologic modifications cannot be operated in such as way as to make the use attainable. Until this demonstration is made, the Commission must reverse its conclusions and retain WBC for all of the River des Peres.	14-Nov-05	e-mail
Dan	Sherburne	River des Peres	1713 & 1711	The letter provides evidence showing that in fact the depth criteria are satisfied at several points along the River des Peres and that the hydrologic modifications along these segments of the river do not preclude WBC use or render it unsafe. A fisherman was seen on the south bank of the lowest 200 meters of River des Peres on October 28, 2005. Photos provided. See letter for additional details and actual measurements taken.	28-Nov-05	e-mail

Public Comments Received on River des Peres #1710-1711 in St. Louis City

First Name	Last Name	WB Name	WBID #	Summary of Comments	Date Rec'd	Date Postmarked
Carl Ted	Stude	River des Peres	1710 & 1711	Two major factors limit beneficial use of the River des Peres and its Deer Creek tributary: (1) many section of channel have steep banks and carry high flows of stormwater runoff, making them physically unattractive and hazardous to access and (2) the water in the lower reaches of the River des Peres system is grossly contaminated by overflows from CSOs during wet weather. Fences off areas discourage access, but is deteriorated and may be used by people to access the river. Overflows occur during relatively light rainfalls. There is practically no flow during dry weather, and the few pools that exist have debris (from trash and CSOs). I have only seem people in the channel a few times--and those involved children who were "exploring" the lower reach of channel when it had only a trickle of water in it.	25-Aug-05	e-mail
David	Wilson	River des Peres	1710 & 1711	He and his wife visit Deer Creek behind the bi-state bus depot at Brentwood and Marshall, which has a hole where swimming probably occurred many years ago. Trails go down to the creek on the SE side. In University City, they have hike from Ruth Park to Heman Park and wade in the River des Peres. His kids have also waded and splashed in Courtois Creek in Crawford County.	03-Nov-05	e-mail

Public Comments Received on River des Peres #1710-1711 in St. Louis City

First Name	Last Name	Address	City	State	Zip	Phone	Email
Diane	Albright	8835 Glenwood Dr.	Chesterwood	MO	63126	N/A	N/A
John	Gorry	N/A	Pacific	MO	N/A	(636) 257-8371	N/A
Dr. Heinrich	Heissinger	618 Dougherty View Ct	Des Peres	MO	63131-2214	(314) 821-5270	heihk75@hotmail.com
Joe	Light	7026 Sutherland Ave	St. Louis	MO	63109	(314) 644-7071	mocaver@yahoo.com; Joe@JoeLight.com
Leslie	Lihou	7008 Amherst Ave.	St. Louis	MO	63130	N/A	leslielihou@brick.net
John	Lodderhose	10 East Grand Ave.	St. Louis	MO	63147-2913	(314) 436-8710	N/A

Public Comments Received on River des Peres #1710-1711 in St. Louis City

First Name	Last Name	Address	City	State	Zip	Phone	Email
Julie	Marino	11141 Glacier Drive	St. Louis	MO	63146	N/A	N/A
John	Meyer, M.D.	N/A	N/A	N/A	N/A	N/A	jjsmlem@aol.com
Laura	Neuman-Howe	1140 E. Parkedge Lane	University City	MO	63110	N/A	a728laura@hotmail.com
Nathan	Pate	N/A	Ellisville	MO	N/A	N/A	jknep@sbcglobal.net
William	Reeves	238 West Glendale Road	Webster Groves	MO	63119	N/A	wr_reeves@yahoo.com
Dan	Sherburne	6267 Delmar Blvd., Ste. 2E	St. Louis	MO	63130	(314) 727-0600	dsheburne@moenviron.com; dsheburne@mindspring.com

Public Comments Received on River des Peres #1710-1711 in St. Louis City

First Name	Last Name	Address	City	State	Zip	Phone	Email
Carl Ted	Stude	1252 Takara Court	Town & Country	MO	63131	N/A	studentt@sbcglobal.net
David	Wilson	450 West Jackson Road	St. Louis	MO	63119	N/A	david.wilson@ewgateway.org